COMPAQ P110

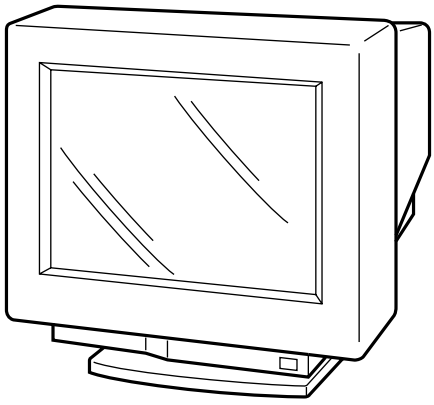
MODEL

SERVICE MANUAL

CPD-520GS/520GST/520GST9

SERVICE MANUAL

REVISED



CPD-520GS
US Model
Canadian Model
Chassis No. SCC-L04N-A

CPD-520GST
AEP Model
UK Model
Chassis No. SCC-L04N-A

CPD-520GST9
AEP Model
Chassis No. SCC-L04N-A

N3 CHASSIS

SPECIFICATIONS

Picture tube	0.25 – 0.27 mm aperture grille pitch 21 inches measured diagonally 90-degree deflection
Viewable image size	Approx. 403.8 × 302.2 mm (w/h) (16 × 12 inches) 19.8" viewing image
Resolution	Horizontal: Max. 1600 dots Vertical: Max. 1200 lines
Standard image area	Approx. 388 × 291 mm (w/h) (15 3/8 × 11 1/2 inches) or Approx. 364 × 291 mm (w/h) (14 3/8 × 11 1/2 inches)
Deflection frequency	Horizontal: 30 to 96 kHz Vertical: 48 to 160 Hz
AC input voltage/current	100 to 240 V, 50 – 60 Hz, 2.0 – 1.0 A
Power consumption	Max. 160 W
Dimensions	498 × 505 × 474 mm (w/h/d) (19 5/8 × 20 × 18 3/4 inches)
Mass	Approx. 31 kg (68 lb 5 oz)
Supplied accessories	See page 6

Design and specifications are subject to change without notice.

TRINITRON® COLOR COMPUTER DISPLAY

MICROFILM

SONY®

SAFETY CHECK-OUT
(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

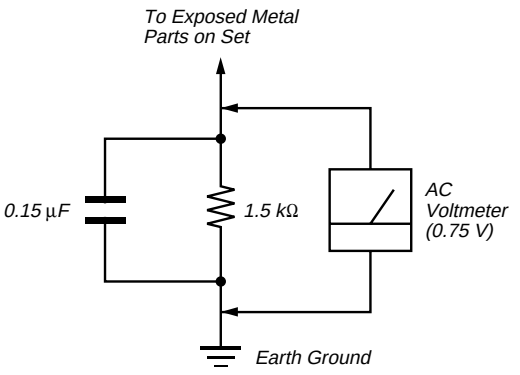
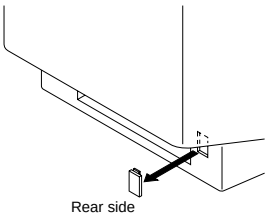


Fig. A. Using an AC voltmeter to check AC leakage.

CAUTION ON DAS (ECS) CONNECTOR

- The connector for DAS (ECS) adjustment is provided inside the cover shown below. Be careful with an electrical shock when connecting the connector with the power supplied. Also, return the removed cover to the home position.



LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers).

Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

WARNING!!
NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

AVERTISSEMENT!!
NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVÉE.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!
LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SONT CRITIQUES POUR LA SÉCURITÉ. NE LES REMPLACER QUE PAR UNE PIÈCE PORTANT LE NUMÉRO SPECIFIÉ. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNE-MENT EST SUSPECTÉ.

POWER SAVING FUNCTION

This monitor meets the power-saving guidelines set by VESA and ENERGY STAR, as well as the more stringent NUTEK .
If the monitor is connected to a computer or video graphics board that is VESA DPMS (Display Power Management Signaling) compliant, the monitor will automatically reduce power consumption in three stages as shown below.
You can set the delay time before the monitor enters the power saving mode using the OSD. Set the time according to "Setting the power saving delay time" on page 1-7.

Note

If no video signal is input to the monitor, the "NO INPUT SIGNAL" message (page 1-9) appears. After the delay time has passed, the power saving function automatically puts the monitor into the active-off mode and the indicator lights up orange. Once the horizontal and vertical sync signals are detected, the monitor automatically resumes its normal operation mode.

	Power consumption mode	Screen	Horizontal sync signal	Vertical sync signal	Power consumption	Recovery time	⏻ indicator
1	Normal operation	active	present	present	≤ 160 W	—	Green
2	Standby (1st mode)	blank	absent	present	≤ 100 W	Approx. 3 sec.	Green and orange alternate
3	Suspend (2nd mode)	blank	present	absent	≤ 15 W	Approx. 3 sec.	Green and orange alternate
4	Active-off (3rd mode)	blank	absent	absent	≤ 5 W	Approx. 10 sec.	Orange
5	Power-off	—	—	—	0 W	—	Off

DIAGNOSIS

Failre	Power LED
+B failure	Orange → Off (0.5 sec) (0.5 sec)
Horizontal / Vertical Deflection failure, Thermal protector	Orange → Off (1.5 sec) (0.5 sec)
ABL protector	Orange → Off (0.5 sec) (1.5 sec)
HV failure	Orange → Off → Orange → Off (0.25 sec) (0.25 sec) (0.25 sec) (1.25 sec)
Aging / Self Test	Orange → Off → Green → Off (0.5 sec) (0.5 sec) (0.5 sec) (0.5 sec)

Aging Mode (Video Aging) : During Power Save, press "MENU" key for longer than 2 second.
Self Test (OSD Color Bar) : During Power Save, press "CONTRAST" + (➡) key for longer than 2 second.
Reliability Check Mode : During Power Save, press "CONTRAST" – (⬅) key for longer than 2 second.

TIMING SPECIFICATION

MODE		TEST MODE
MODE AT PRODUCTION	MODE 1	MODE 2
RESOLUTION	738 X 414	1600 X 1200
CLOCK	28.322 MHZ	202.500 MHZ
— HORIZONTAL —		
H-FREQ	31.469 kHz	93.750 kHz
	usec	usec
H. TOTAL	31.777	10.667
H. BLK	5.720	2.765
H. FP	0.318	0.316
H. SYNC	3.813	0.948
H. BP	1.589	1.501
H. ACTIV	26.057	7.901
— VERTICAL —		
V. FREQ(HZ)	70.087Hz	75.000 Hz
	lines	lines
V. TOTAL	449	1250
V. BLK	35	50
V. FP	5	1
V. SYNC	2	3
V. BP	28	46
V. ACTIV	414	1200
— SYNC —		
INT(G)	NO	NO
EXT(H/V)/POLARITY	YES N/P	YES P/P
EXT(CS) /POLARITY	NO	NO
INT/NON INT	NON INT	NON INT

98.05.12 VER.

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Note: Hand degauss must be used on stand-by or power-off condition.
This model has an automatic earth magnetism correction function by using an earth magnetism sensor and a LCC coil. When using a hand degauss while monitor (LCC coil) is being operated, it sometimes gets magnetized, and the system may not work properly as a result.

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

SECTION 1
GENERAL

Precautions

Installation

- Prevent internal heat build-up by allowing adequate air circulation. Do not place the monitor on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the monitor near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Do not place the monitor near equipment which generates magnetism, such as a transformer or high voltage power lines.

Maintenance

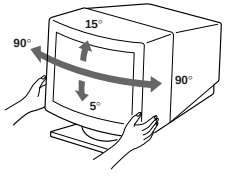
- Clean the cabinet, panel and controls with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent, such as alcohol or benzine.
- Do not rub, touch, or tap the surface of the screen with sharp or abrasive items such as a ballpoint pen or screwdriver. This type of contact may result in a scratched picture tube.
- Clean the screen with a soft cloth. If you use a glass cleaning liquid, do not use any type of cleaner containing an anti-static solution or similar additive as this may scratch the screen's coating.

Transportation

When you transport this monitor for repair or shipment, use the original carton and packing materials.

Use of the Tilt-Swivel

With the tilt-swivel, this monitor can be adjusted to the desired angle within 180° horizontally and 20° vertically. To turn the monitor vertically and horizontally, hold it at the bottom with both hands as illustrated below.

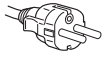


Warning on power connection

- Use an appropriate power cord for your local power supply.
  For the customers in the U.S.A.
  If you do not use the appropriate cord, this monitor will not conform to mandatory FCC standards.

Examples of plug types

for 100 to 120 V AC


for 200 to 240 V AC

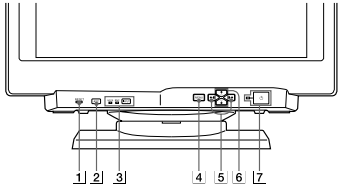
- Before disconnecting the power cord, wait at least 30 seconds after turning off the power to allow the static electricity on the CRT display surface to discharge.
- After the power has been turned on, the CRT is demagnetized (degaussed) for about 3 seconds. This generates a strong magnetic field around the metal frame, which may affect the data stored on magnetic tapes and disks near the bezel. Place magnetic recording equipment, tapes and disks away from this monitor.

The outlet should be installed near the equipment and be easily accessible.

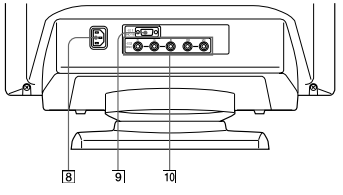
Identifying Parts and Controls

See the pages in parentheses for further details.

Front



Rear



1 RESET (reset) button (page 17)
Resets the adjustments to the factory settings.

2 ASC (auto sizing and centering) button (page 7)
Automatically adjusts the size and centering of the images.

3 INPUT (input) button and HD15/BNC indicators (page 8)
Selects the HD15 or 5BNC video input signal. Each time you press this button, the input signal and corresponding indicator alternate.

4 MENU (menu) button (pages 8 -17, 19)
Displays the MENU OSD.

5 ◑ (contrast) (←/→) buttons (pages 8 – 17, 22)
Adjust the contrast.

Function as the (←/→) buttons when adjusting other items.

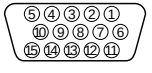
6 ☼ (brightness) (↓/↑) buttons (pages 8 – 17)
Adjust the picture brightness.

Function as the (↓/↑) buttons when adjusting other items.

7 ⏻ (power) switch and indicator (pages 19, 22)
Turns the monitor on or off.
The indicator lights up in green when the monitor is turned on, and either flashes in green and orange or lights up in orange when the monitor is in power saving mode.

8 AC IN connector
Provides AC power to the monitor.

9 Video input 1 connector (HD15)
Inputs RGB video signals (0.700 Vp-p, positive) and SYNC signals.



Pin No.	Signal	Pin No.	Signal
1	Red	8	Blue Ground
2	Green (Composite Sync on Green)	9	DDC + 5V*
		10	Ground
		11	ID (Ground)
3	Blue	12	Bi-Directional Data (SDA)*
4	ID (Ground)		
5	DDC Ground*	13	H. Sync
6	Red Ground	14	V. Sync
7	Green Ground	15	Data Clock(SCL)*

* Display Data Channel (DDC) Standard of VESA

10 Video input 2 connector (5 BNC)
Inputs RGB video signals (0.700 Vp-p, positive) and SYNC signals.

Setup

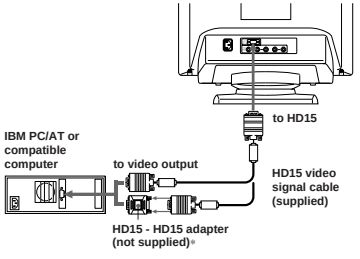
Before using this monitor, check that the following items are included in your carton:
- Monitor (1)
- Power cord (1)
- HD15 video signal cable (1)
- Macintosh adapter (1)
- Windows® 95 Monitor Information Disk/File (1)
- Warranty card (1)
- Notes on cleaning the screen's surface (1)
- These operating instructions (1)

This monitor works with any IBM or compatible system equipped with VGA or greater graphics capability. Although this monitor works with other platforms running at horizontal frequencies between 30 and 96 kHz, including Macintosh and Power Macintosh systems, a cable adapter is required. Please consult your dealer for advice on which adapter is suitable for your needs.

Step 1: Connect the monitor to the computer

With the computer switched off, connect the video signal cable to the monitor using the supplied HD15 video signal cable.
- If you are using an IBM PC/AT or compatible computer, refer to the section below.
- If you are using a Macintosh or compatible computer, refer to the following section, "Connecting to a Macintosh or compatible computer."
- If you want to use the 5 BNC connectors, refer to the section, "Connecting to the 5 BNC connectors."

Connecting to an IBM PC/AT or compatible computer

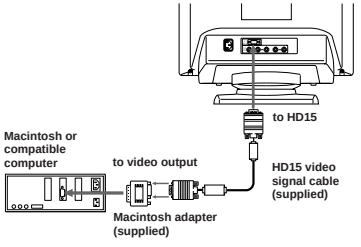

to HD15
IBM PC/AT or compatible computer
to video output
HD15 video signal cable (supplied)
HD15 - HD15 adapter (not supplied)*

* The HD15 - HD15 adapter may be needed for some models.

If your PC system is not compatible with DDC2AB and DDC2B+

This monitor uses the No. 9 pin in the video signal connector for DDC2AB and DDC2B+ compatibility.
Some PC systems which are not compatible with either DDC2AB or DDC2B+ may not accept the No. 9 pin. If you are not sure whether your PC system accepts the No. 9 pin or not, use the HD15 (Female) - HD15 (Male without the No. 9 pin) adapter (not supplied). Make sure the male side (without the No. 9 pin) is connected to the computer.

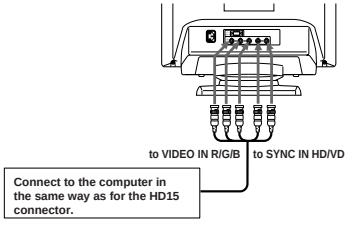
Connecting to a Macintosh or compatible computer



About the supplied Macintosh adapter

The supplied Macintosh adapter is compatible with Macintosh LC, Performa, Quadra and Power Macintosh series computers. Macintosh II series and some older versions of Power Book models may need an adapter with micro switches (not supplied).

Connecting to the 5 BNC connectors

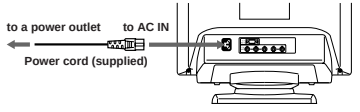


To connect the 5 BNC connectors, use the SMF-400 video signal cable (sold separately). Connect the cables from left to right in the following order: Red–Green–Blue–HD–VD.

Notes
- Do not short the pins of the video signal cable.
- The DDC standard does not apply to the 5 BNC connectors. If you use the DDC standard, connect the HD15 connector to the computer with the supplied video signal cable.

Step 2: Connect the power cord

With the monitor switched off, connect one end of the power cord to the monitor and the other end to a power outlet.



Step 3: Turn on the monitor and computer

The installation of your monitor is complete.

Note

If "OUT OF SCAN RANGE" or "NO INPUT SIGNAL" appears on the screen, see "Warning Messages" on page 20.

For customers using Windows® 95

Install the new model information from the "Windows 95 Monitor Information Disk" into your PC. (To install the file, refer to the attached "About the Windows 95 Monitor Information Disk/File.")

This monitor complies with the "VESA DDC" Plug&Play standard. If your PC/graphics board complies with DDC, select "Plug and Play Monitor (VESA DDC)" as "Monitor type" from "Control Panel" in Windows 95. Some PCs/graphics boards do not comply with DDC. Even if your computer complies with DDC, it may have some problems connecting with this monitor. In this case, select this monitor's model name (CPD-520GS) as "Monitor type" in Windows 95.

For customers using Windows NT4.0

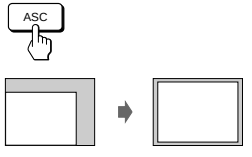
Monitor setup in Windows NT4.0 is different from Windows 95 and does not involve the selection of monitor type. Refer to the Windows NT4.0 instruction manual for further details on adjusting the resolution, refresh rate, and number of colors.

Automatically Adjusting the Size and Centering of the Picture

By pressing the auto sizing and centering (ASC) button, the size and centering of the picture are automatically adjusted to fit the screen.

1 **Turn on the monitor and computer.**

2 **Press the ASC button.**
The picture is adjusted to fit the center of the screen.



Notes
- This function is intended for use with a computer running Windows or similar graphic user interface software that provides a full-screen picture. It may not work properly if the background color is dark or if the input picture does not fill the screen to the edges (such as an MS-DOS prompt).
- The screen may go blank for a few seconds while performing the auto-sizing function. This is not a malfunction.
- Although the signals for picture aspect ratio 5:4 (resolution: 1280 × 1024) do not fill the screen to the edges, the picture is accurately displayed.

Selecting the On-screen Display Language

If you need to change the OSD language, see "Using the LANG (Language) On-screen Display" on page 17.
The default setting is English.

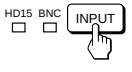
EN

Selecting the Input Signal

This monitor has two signal input connectors (HD15 and 5BNC) and can be connected to two computers. When the power of both computers is on, select the input signal you want to view as follows.

1 **Turn on the monitor and both computers.**

2 **Press the INPUT button to select the HD15 or 5BNC input signal.**
Each time you press the INPUT button, the input signal and corresponding indicator alternate.



Selecting the INPUT signal mode

This monitor has two modes of input signal selection, "AUTO" and "MANUAL."

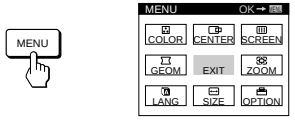
When "AUTO" is selected

If no signal is input from the selected connector, the monitor automatically selects the other connector's signal. When you restart the computer you want to view, or that computer is in power saving mode, the monitor may automatically select the other connector's signal. This is because the monitor switches from the interrupted signal to the constant signal. If this happens, manually select the desired signal using the INPUT button.

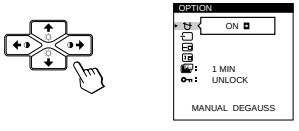
When "MANUAL" is selected

Even if no signal is input from the selected connector, the monitor does not select the other connector's signal.

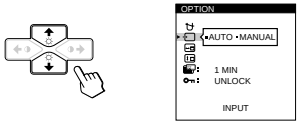
1 **Press the MENU button.**
The MENU OSD appears.



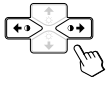
2 **Press the ☼↓/↑ and ◑←/→ buttons to select " OPTION," and press the MENU button again.**
The OPTION OSD appears.



3 **Press the ☼↓/↑ buttons to select " (INPUT)."**



4 **Press the ◑←/→ buttons to select "AUTO" or "MANUAL."**



The OPTION OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

For more information on using the OSD, see "Introducing the On-screen Display System" on page 9.

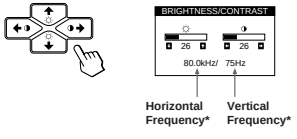
Before adjusting

- Connect the monitor and the computer, and turn them on.
- Select " LANG" in the MENU OSD, then select "ENGLISH" (see page 17).

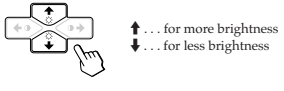
Adjusting the Picture Brightness and Contrast

Once the setting is adjusted, it will be stored in memory for all input signals received.

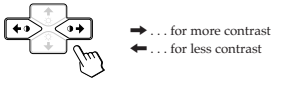
1 **Press the ☼ (brightness) ↓/↑ or ◑ (contrast) ←/→ buttons.**
The BRIGHTNESS/CONTRAST OSD appears.



2 **For brightness adjustment**
Press the ☼↓/↑ buttons.



For contrast adjustment
Press the ◑←/→ buttons.



The OSD automatically disappears after about 3 seconds.

To reset, press the RESET button while the OSD is on. The brightness and contrast are both reset to the factory settings.

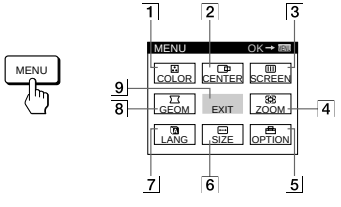
* The horizontal and vertical frequencies for the received input signal appear in the BRIGHTNESS/CONTRAST OSD.

Introducing the On-screen Display System

Most adjustments are made using the MENU OSD.

MENU OSD

Press the MENU button to display the MENU OSD.
This MENU OSD contains links to the other OSDs described below.



EN

1 **COLOR**
Displays the COLOR OSD for adjusting the color temperature.

2 **CENTER**
Displays the CENTER OSD for adjusting the centering of the picture.

3 **SCREEN**
Displays the SCREEN OSD for adjusting the vertical and horizontal convergence, etc.

4 **ZOOM**
Displays the ZOOM OSD for enlarging and reducing the picture.

5 **OPTION**
Displays the OPTION OSD for adjusting the OSD position and degaussing the screen, etc.

6 **SIZE**
Displays the SIZE OSD for adjusting the picture size.

7 **LANG**
Displays the LANGUAGE OSD for selecting the language.

8 **GEOM**
Displays the GEOMETRY OSD for adjusting the picture rotation and pincushion, etc.

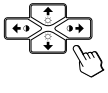
9 **EXIT**
Closes the MENU OSD.

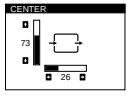
Using the CENTER On-screen Display

The CENTER settings allow you to adjust the centering of the picture.
Once the setting is adjusted, it will be stored in memory for the current input signal.

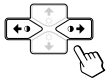
1 Press the MENU button.
The MENU OSD appears.

2 Press the ☼↓/↑ and ◑←/→ buttons to select " CENTER," and press the MENU button again.
The CENTER OSD appears.



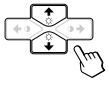


3 For horizontal adjustment
Press the ◑←/→ buttons.



→ . . . to move the picture right
← . . . to move the picture left

For vertical adjustment
Press the ☼↓/↑ buttons.



↑ . . . to move the picture up
↓ . . . to move the picture down

The OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

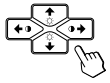
To reset, press the RESET button while the OSD is on.
The horizontal and vertical centerings are both reset to the factory settings.

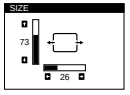
Using the SIZE On-screen Display

The SIZE settings allow you to adjust the size of the picture.
Once the setting is adjusted, it will be stored in memory for the current input signal.

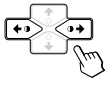
1 Press the MENU button.
The MENU OSD appears.

2 Press the ☼↓/↑ and ◑←/→ buttons to select " SIZE," and press the MENU button again.
The SIZE OSD appears.



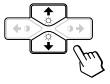


3 For horizontal adjustment
Press the ◑←/→ buttons.



→ . . . to increase picture size
← . . . to decrease picture size

For vertical adjustment
Press the ☼↓/↑ buttons.



↑ . . . to increase picture size
↓ . . . to decrease picture size

The OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

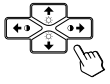
To reset, press the RESET button while the OSD is on.
The horizontal and vertical sizes are both reset to the factory settings.

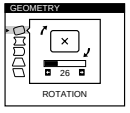
Using the GEOM (Geometry) On-screen Display

The GEOM (geometry) settings allow you to adjust the shape and orientation of the picture.
Once the rotation is adjusted, it will be stored in memory for all input signals received. All other adjustments will be stored in memory for the current input signal.

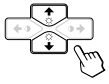
1 Press the MENU button.
The MENU OSD appears.

2 Press the ☼↓/↑ and ◑←/→ buttons to select " GEOM," and press the MENU button again.
The GEOMETRY OSD appears.



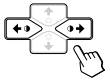


3 Press the ☼↓/↑ buttons to select the item you want to adjust.



Select	To
ROTATION	adjust the picture rotation
PINCUSHION	adjust the picture sides
PIN BALANCE	adjust the picture side balance
KEYSTONE	adjust the picture width
KEY BALANCE	adjust the picture shape balance

4 Press the ◑←/→ buttons to adjust the settings.



For	Press
ROTATION	→ . . . to rotate the picture clockwise ← . . . to rotate the picture counterclockwise
PINCUSHION	→ . . . to expand the picture sides ← . . . to contract the picture sides
PIN BALANCE	→ . . . to move the picture sides to the right ← . . . to move the picture sides to the left
KEYSTONE	→ . . . to increase the picture width at the top ← . . . to decrease the picture width at the top
KEY BALANCE	→ . . . to move the top of the picture to the right ← . . . to move the top of the picture to the left

The OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

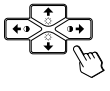
To reset, press the RESET button while the OSD is on.
The selected item is reset to the factory setting.

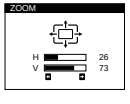
Using the ZOOM On-screen Display

The ZOOM settings allow you to enlarge or reduce the picture.
Once the setting is adjusted, it will be stored in memory for the current input signal.

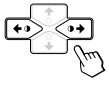
1 **Press the MENU button.**
The MENU OSD appears.

2 **Press the ☼↓/↑ and ◑←/→ buttons to select " ZOOM," and press the MENU button again.**
The ZOOM OSD appears.





3 **Press the ◑←/→buttons to adjust the picture zoom.**



→ . . . to enlarge the picture
← . . . to reduce the picture

The OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

To reset, press the RESET button while the OSD is on.

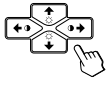
Note
The picture zoom adjustment will stop as soon as either the horizontal or vertical size reaches its maximum or minimum value.

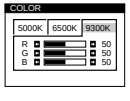
Using the COLOR On-screen Display

You can change the monitor's color temperature. For example, you can adjust or change the colors of a picture on the screen to match the actual colors of the printed picture.
Once the setting is adjusted, it will be stored in memory for all input signals received.

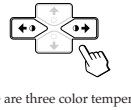
1 **Press the MENU button.**
The MENU OSD appears.

2 **Press the ☼↓/↑ and ◑←/→ buttons to select " COLOR," and press the MENU button again.**
The COLOR OSD appears.



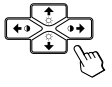


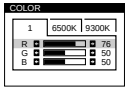
3 **Press the ◑←/→ buttons to select the color temperature.**



There are three color temperature modes in the OSD.
The preset adjustments are:
5000K, 6500K, 9300K

4 **Fine tuning the color temperature**
Press the ☼↓/↑ buttons to select R (red), G (green), or B (blue) and adjust by pressing the ◑←/→ buttons.

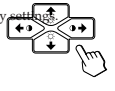




The "5000K," "6500K" or "9300K" disappears and the new color settings are memorized for each of the three color modes.
The color temperature modes change as follows:
5000K→ 1, 6500K→ 2, 9300K→ 3

The OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

To reset, press the RESET button while the OSD is on. The selected item is reset to the factory settings.

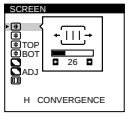


Using the SCREEN On-screen Display

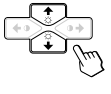
You can adjust convergence settings to eliminate red or blue shadows that may appear around objects on the screen.
Adjust the CANCEL MOIRE function to eliminate wavy or elliptical patterns that may appear on the screen.
Adjust the LANDING function to correct color imbalances at the four corners of the screen due to influence from the earth's magnetism.
Once CANCEL MOIRE is adjusted, it will be stored in memory for the current input signal. All other adjustments will be stored in memory for all input signals received.

1 **Press the MENU button.**
The MENU OSD appears.

2 **Press the ☼↓/↑ and ◑←/→ buttons to select " SCREEN," and press the MENU button again.**
The SCREEN OSD appears.



3 **Press the ☼↓/↑ buttons to select the item you want to adjust.**



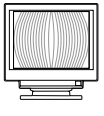
Select	To
H CONVERGENCE	adjust the horizontal convergence
V CONVERGENCE	adjust the vertical convergence
TOP V CONVER TOP	adjust the screen's upper vertical convergence
BOT V CONVER BOTTOM	adjust the screen's lower vertical convergence

(continued)

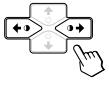
Select	To
LANDING	select one of the four corners that needs color correction due to influence from the earth's magnetism
ADJ LANDING ADJUST	correct the color at one of the four corners of the screen
CANCEL MOIRE *	turn the moire cancellation function "ON" or "OFF." CANCEL MOIRE must be "ON" for " ADJ (MOIRE ADJUST)" to appear on the screen.
ADJ MOIRE ADJUST	adjust the degree of moire cancellation

* Moire is a type of natural interference which produces soft or wavy lines on your screen. It may appear due to interference between the regulated pattern of the picture from the input signal and the phosphor pitch pattern of the CRT.

Example of moire:



4 Press the ◑⬅/➡ buttons to adjust the settings.



For	Press
H CONVERGENCE	➡ . . . to shift red shadows to the right and blue shadows to the left ⬅ . . . to shift red shadows to the left and blue shadows to the right
V CONVERGENCE	➡ . . . to shift red shadows up and blue shadows down ⬅ . . . to shift red shadows down and blue shadows up
TOP V CONVER TOP	➡ . . . to shift red shadows up and blue shadows down ⬅ . . . to shift red shadows down and blue shadows up
BOT V CONVER BOTTOM	➡ . . . to shift red shadows up and blue shadows down ⬅ . . . to shift red shadows down and blue shadows up
LANDING	➡ or ⬅ . . . to select the corner of the screen you want to adjust : top left : top right : bottom left : bottom right
ADJ LANDING ADJUST	➡ or ⬅ . . . to reduce any irregularities in the color to a minimum
CANCEL MOIRE	➡ . . . to turn CANCEL MOIRE "ON" ⬅ . . . to turn CANCEL MOIRE "OFF"
ADJ MOIRE ADJUST	➡ or ⬅ . . . to adjust the screen until the moire is at a minimum

Note

The picture may become fuzzy when CANCEL MOIRE is set to "ON."

The OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

To reset, press the RESET button while the OSD is on.
The selected item is reset to the factory setting.

Using the OPTION On-screen Display

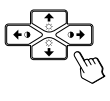
The OPTION OSD allows you to manually degauss the screen and adjust settings such as the OSD position and power saving delay time. It also allows you to lock the controls.

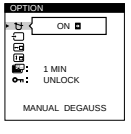
Degaussing the screen

The monitor screen is automatically degaussed (demagnetized) when the power is turned on.
You can also manually degauss the monitor.

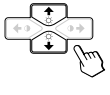
1 Press the MENU button.
The MENU OSD appears.

2 Press the ☼⬇/⬆ and ◑⬅/➡ buttons to select " OPTION," and press the MENU button again.
The OPTION OSD appears.





3 Press the ☼⬇/⬆ buttons to select " (MANUAL DEGAUSS)."



4 Press the ◑➡ button.
The screen is degaussed for about 3 seconds.

If you need to degauss the screen a second time, wait for at least 20 minutes before repeating the steps above.

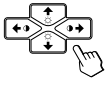
The OPTION OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

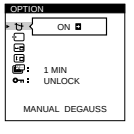
Changing the on-screen display position

You can change the OSD position (for example, when you want to adjust the picture behind the OSD).

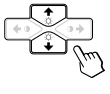
1 Press the MENU button.
The MENU OSD appears.

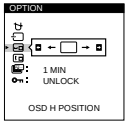
2 Press the ☼⬇/⬆ and ◑⬅/➡ buttons to select " OPTION," and press the MENU button again.
The OPTION OSD appears.



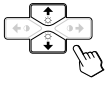


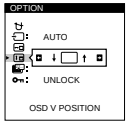
3 Press the ☼⬇/⬆ buttons to select " (OSD H POSITION)" or " (OSD V POSITION)."
Select " (OSD H POSITION)" to adjust the horizontal position.





Select " (OSD V POSITION)" to adjust the vertical position.





4 Press the ◑⬅/➡ buttons to move the OSD to the desired position.

The OPTION OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

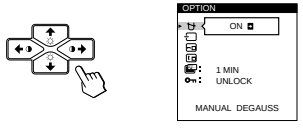
To reset, press the RESET button while the OSD is on.

Setting the power saving delay time

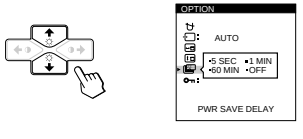
You can set the delay time before the monitor enters the power saving mode. See page 19 for more information on this monitor's power saving capabilities.

1 Press the MENU button.
The MENU OSD appears.

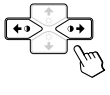
2 Press the ☼↓/↑ and ◑←/→ buttons to select " OPTION," and press the MENU button again.
The OPTION OSD appears.



3 Press the ☼↓/↑ buttons to select " (PWR SAVE DELAY)."



4 Press the ◑←/→ buttons to select the desired time.



When PWR SAVE DELAY is set to "OFF," the monitor does not go into power saving mode.

The OPTION OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

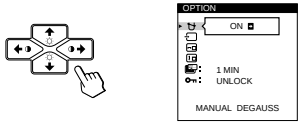
To reset, press the RESET button while the OSD is on.

Locking the controls

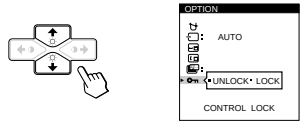
The control lock function disables all of the buttons on the front panel except the ⏻ (power) switch, MENU and INPUT buttons.

1 Press the MENU button.
The MENU OSD appears.

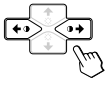
2 Press the ☼↓/↑ and ◑←/→ buttons to select " OPTION," and press the MENU button again.
The OPTION OSD appears.



3 Press the ☼↓/↑ buttons to select " (CONTROL LOCK)."



4 Press the ◑←/→ buttons to select "LOCK."



The OPTION OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

Once you select "LOCK," you cannot select any items except "EXIT" and " OPTION" in the MENU OSD.
If you press any button other than the ⏻ (power) switch, MENU and INPUT buttons, the mark appears on the screen.

To cancel the control lock

Repeat steps 1 through 3 above and press the ◑←/→ buttons to select "UNLOCK."

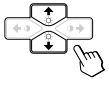
Using the LANG (Language) On-screen Display

English, French, German, Spanish, Italian and Japanese versions of the OSDs are available.

1 Press the MENU button.
The MENU OSD appears.

2 Press the ☼↓/↑ and ◑←/→ buttons to select " LANG," and press the MENU button again.
The LANGUAGE OSD appears.

3 Press the ☼↓/↑ buttons to select the desired language.



ENGLISH: English, FRANÇAIS: French,
DEUTSCH: German, ESPAÑOL: Spanish,
ITALIANO: Italian, or 日本語 : Japanese.

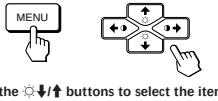
The OSD automatically disappears after about 30 seconds.
To close the OSD, press the MENU button again.

To reset to English, press the RESET button while the OSD is on.

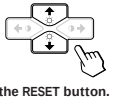
Resetting the Adjustments

Resetting an adjustment item

1 Press the MENU, ☼↓/↑ and ◑←/→ buttons to select the OSD containing the item you want to reset.



2 Press the ☼↓/↑ buttons to select the item you want to reset.



3 Press the RESET button.

Resetting all of the adjustment data for the current input signal

When there is no OSD displayed, press the RESET button.
All of the adjustments data for the current input signal is reset to the factory settings.
Note that adjustment data not affected by changes in input signal (OSD language, OSD position, input signal selection, power saving delay time and the control lock function) is not reset to the factory settings.

Resetting all of the adjustment data for all input signals

Press and hold the RESET button for more than two seconds.
All of the adjustment data, including the brightness and contrast, is reset to the factory settings.

Preset and User Modes

This monitor has factory preset modes for the most popular industry standards for true "plug and play" compatibility.

When a new input signal is entered, the monitor selects the appropriate factory preset mode and momentarily adjusts the phase calibration to provide a high quality picture to the center of the screen. The calibration is stored in memory and is immediately recalled whenever the same input signal is received.

No.	Resolution (dots × lines)	Horizontal Frequency	Vertical Frequency	Graphics Mode
1	640 × 350	31.5 kHz	70 Hz	MCGA
2	640 × 480	31.5 kHz	60 Hz	VGA-G
3	640 × 480	37.5 kHz	75 Hz	EVGA
4	640 × 480	43.3 kHz	85 Hz	VESA
5	720 × 400	31.5 kHz	70 Hz	VGA-Text
6	720 × 400	37.9 kHz	85 Hz	VESA
7	800 × 600	37.9 kHz	60 Hz	SVGA
8	800 × 600	46.9 kHz	75 Hz	ESVGA
9	800 × 600	53.7 kHz	85 Hz	VESA
10	832 × 624	49.7 kHz	75 Hz	Macintosh 16″ Color
11	1024 × 768	48.4 kHz	60 Hz	VESA
12	1024 × 768	56.5 kHz	70 Hz	VESA
13	1024 × 768	60.0 kHz	75 Hz	EUVGA
14	1024 × 768	60.2 kHz	75 Hz	Macintosh 19″ Color
15	1024 × 768	68.7 kHz	85 Hz	VESA
16	1152 × 864	67.5 kHz	75 Hz	VESA
17	1152 × 870	68.7 kHz	75 Hz	Macintosh 21″ Color
18	1280 × 960	60.0 kHz	60 Hz	VESA
19	1280 × 960	85.9 kHz	85 Hz	VESA
20	1280 × 1024	64.0 kHz	60 Hz	VESA
21	1280 × 1024	80.0 kHz	75 Hz	VESA
22	1280 × 1024	91.1 kHz	85 Hz	VESA
23	1600 × 1200	75.0 kHz	60 Hz	VESA
24	1600 × 1200	81.3 kHz	65 Hz	VESA
25	1600 × 1200	87.5 kHz	70 Hz	VESA
26	1600 × 1200	93.8 kHz	75 Hz	VESA

For input signals that do not match one of the factory preset modes, the digital Multiscan technology of this monitor performs all of the adjustments necessary to ensure that a clear picture appears on the screen for any timing in the monitor's frequency range. However, it may be necessary to fine tune the vertical/horizontal size and centering. Simply press the ASC button or adjust the monitor according to the adjustment instructions. The adjustments are stored automatically as a user mode and recalled whenever the corresponding input signal is received. A total of 15 user adjusted modes can be stored in memory.

Recommended horizontal and vertical timing conditions

Horizontal sync width duty should be: >4.8% of total horizontal time.
Horizontal blanking width should be: >2.8 µsec.
Vertical blanking width should be: > 450 µsec.

Note for Windows® users

For Windows users, check your video board manual or the utility program which comes with your graphic board and select the highest available refresh rate to maximize monitor performance.

Adjusting the monitor's resolution and color number

If you are using Windows 95, adjust the monitor's resolution and color number according to the steps below. Refer also to the Windows 95 HELP files.
If you are using a Macintosh or compatible computer, Refer to your computer's instruction manual.

1 Click the Start button and point to Settings. Then double-click the Control Panel.

2 Double-click the Display icon.

3 Click Settings.

4 Click the Color palette. Point to the desired color number and click.
Point to the Desktop area and drag the slider to the desired resolution.

5 Click OK.

Note

Some settings may require that the computer be turned off then back on to take effect. In this case, follow the on-screen instructions.

About the color number

- The Color palette setting and the actual number of colors is as follows:
  High Color (16 bit) → 65,536 colors
  True Color (24 bit) → about 16.77 million colors
- In True color mode (24 bit), speed may be slower.
- The color number may vary according to your computer or video board.

Power Saving Function

This monitor meets the power-saving guidelines set by VESA and ENERGY STAR, as well as the more stringent NUTEK .
If the monitor is connected to a computer or video graphics board that is VESA DPMS (Display Power Management Signaling) compliant, the monitor will automatically reduce power consumption in three stages as shown below.

	Power consumption mode	Screen	Horizontal sync signal	Vertical sync signal	Power consumption	Recovery time	⏻ indicator
1	Normal operation	active	present	present	≤ 160 W	—	Green
2	Standby (1st mode)	blank	absent	present	≤ 100 W	Approx. 3 sec.	Green and orange alternate
3	Suspend (2nd mode)	blank	present	absent	≤ 15 W	Approx. 3 sec.	Green and orange alternate
4	Active-off (3rd mode)	blank	absent	absent	≤ 5 W	Approx. 10 sec.	Orange
5	Power-off	—	—	—	0 W	—	Off

You can set the delay time before the monitor enters the power saving mode using the OSD. Set the time according to "Setting the power saving delay time" on page 16.

Note

If no video signal is input to the monitor, the "NO INPUT SIGNAL" message (page 20) appears. After the delay time has passed, the power saving function automatically puts the monitor into the active-off mode and the ⏻ indicator lights up orange. Once the horizontal and vertical sync signals are detected, the monitor automatically resumes its normal operation mode.

Displaying the Monitor's Information Box

You can display the model name, serial number and year of manufacture using the monitor's INFORMATION OSD.

Press and hold the MENU button for 5 seconds.
The INFORMATION OSD appears.

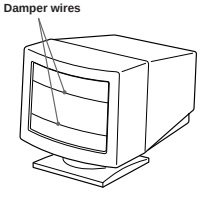
Example:

The INFORMATION OSD includes the model name, serial number, manufactured year, and manufactured week.

The OSD automatically disappears after about 30 seconds.

Damper Wires

When viewing a white background, very thin horizontal lines may be visible on the screen as shown below. These lines are the shadows of the damper wires and are characteristic of CRTs that use aperture grilles. The wires are attached to the aperture grille on the inside of the Trinitron tube and prevent the vibration of the aperture grille.



Plug & Play

This monitor complies with the DDC™1, DDC2B, DDC2AB and DDC2B+ Display Data Channel (DDC) standards of VESA.
When a DDC1 host system is connected, the monitor synchronizes with the V. CLK in accordance with the VESA standards and outputs the EDID (Extended Display Identification Data) to the data line.
When a DDC2B, DDC2AB or DDC2B+ host system is connected, the monitor automatically switches to the appropriate standard.

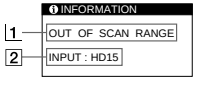
DDC™ is a trademark of the Video Electronics Standard Association.

Note

When using Windows® 95, the DDC standard does not apply to the 5 BNC connectors. If you use the DDC standard, connect the HD15 connector to the computer with the supplied video signal cable.

Warning Messages

If there is something wrong with the input signal, one of the following messages appears.



1 The input signal condition

"OUT OF SCAN RANGE" indicates that the input signal is not supported by the monitor's specifications.

"NO INPUT SIGNAL" indicates that no signal is input, or the input signal from the selected input connector is not received.

2 The selected input connector

Indicates which input connector is receiving the wrong signal. If there is something wrong with the signal from both input connectors, "HD15" and "BNC" are displayed alternately.

To solve these problems, see "Troubleshooting" below.

Troubleshooting

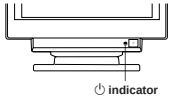
This section may help you isolate the cause of a problem and as a result, eliminate the need to contact technical support.

Symptom	Check these items
No picture	
If the ⏻ indicator is not lit	• Check that the power cord is properly connected. • Check that the ⏻ (power) switch is in the "on" position.
If the "NO INPUT SIGNAL" message appears on the screen, or if the ⏻ indicator is either orange or alternating between green and orange	• The screen is blank when the monitor is in power saving mode. Try pressing any key on the computer keyboard. • Check that your computer power switch is in the "on" position. • Check that the input select setting is correct. • Check that the video signal cable is properly connected and all plugs are firmly seated in their sockets. • Check that the 5 BNCs are connected in the correct order (from left to right: Red–Green–Blue–HD–VD) (page 6). • Ensure that no pins are bent or pushed in the HD15 video input connector. • Check that the video board is completely seated in the proper bus slot.
If the "OUT OF SCAN RANGE" message appears on the screen	• Check that the video frequency range is within that specified for the monitor. Horizontal: 30 – 96 kHz, Vertical: 48 – 160 Hz Refer to your computer's instruction manual to adjust the video frequency range. • If you are using a video signal cable adapter, check that it is correct.
If no message is displayed and the ⏻ indicator is green or flashing orange	• See "Self-diagnosis Function" (page 22).
If using a Macintosh system	• Check that the Macintosh adapter and the video signal cable are properly connected (page 6).
If using Windows® 95	• If you cannot find your model's name (CPD-520GS) among the Sony monitors in the Windows 95 monitor selection screen, select the DDC standard monitor or install the Windows 95 Monitor Information Disk (page 7). The DDC standard does not apply to the 5 BNC connectors. If you use the DDC standard, connect the computer to the HD15 connector with the supplied video signal cable.
Picture is scrambled	• Check your graphics board manual for the proper monitor setting. • Check this manual and confirm that the graphics mode and the frequency you are trying to operate at is supported. Even if the frequency is within the proper range, some video boards may have a sync pulse that is too narrow for the monitor to sync correctly.

Symptom	Check these items
Color is not uniform	• Degauss the monitor (page 15). If you place equipment which generates a magnetic field, such as a loudspeaker, near the monitor, or you change the direction of the monitor, color may lose uniformity. The degauss function demagnetizes the metal frame of the CRT to obtain a neutral field for uniform color reproduction. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result. • Adjust the landing (pages 13 – 14).
You cannot adjust the monitor with the buttons on the front panel	• If the control lock function is set to on, set it to off using the OPTION OSD (page 16).
White does not look white	• Adjust the color temperature (pages 12 – 13). • Check that the 5 BNCs are connected in the correct order (from left to right: Red–Green–Blue–HD–VD) (page 6).
Screen image is not centered or sized properly	• Press the ASC button (page 7). • Adjust the size or centering (page 10). • Some video modes do not fill the screen to the edges. This problem tends to occur with certain video boards.
Edges of the image are curved	• Adjust the geometry (page 11).
White lines show red or blue shadows at edges	• Adjust the convergence (pages 13 – 14).
Picture is fuzzy	• Adjust the contrast and brightness (page 9). • Degauss the monitor (page 15). If you place equipment which generates a magnetic field, such as a loudspeaker, near the monitor, or you change the direction of the monitor, color may lose uniformity. The degauss function demagnetizes the metal frame of the CRT to obtain a neutral field for uniform color reproduction. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result. • If red or blue shadows appear along the edges of images, adjust the convergence (pages 13 – 14). • If the moire is cancelled, the picture may become fuzzy. Decrease the moire cancellation effect (pages 13 – 14).
Picture bounces or has wavy oscillations	• Isolate and eliminate any potential sources of electric or magnetic fields. Common causes for this symptom are electric fans, fluorescent lighting or laser printers. • If you have another monitor close to this monitor, increase the distance between them to reduce the interference. • Try plugging the monitor into a different AC outlet, preferably on a different circuit. • Try the monitor on a different computer in a different room.
Picture is flickering	• Set the refresh rate on the computer to obtain the best possible picture by referring to the computer's manual.
Picture appears to be ghosting	• Eliminate the use of video cable extensions and/or video switch boxes if this symptom occurs. Excessive cable length or a weak connection can produce this symptom.
Wavy or elliptical (moire) pattern is visible	• Cancel the moire (pages 13 – 14). The moire may be modified depending on the connected computer. • Due to the relationship between resolution, monitor dot pitch and the pitch of some image patterns, certain screen backgrounds sometimes show moire. Change your desktop pattern.
Two fine horizontal lines (wires) are visible	• These wires stabilize the vertically striped aperture grille (page 19). This aperture grille allows more light to pass through to the screen giving the Trinitron CRT more color and brightness.
Hum is heard right after the power is turned on	• When the power is turned on, the auto-degauss cycle is activated. While the auto-degauss cycle is activated (3 seconds), a hum may be heard. The same hum is heard when the monitor is manually degaussed. This is not a malfunction.

Self-diagnosisFunction

This monitor is equipped with a self-diagnosis function. If there is a problem with your monitor or computer(s), the screen will go blank and the ⏻ indicator will either light up green or flash orange.



If the ⏻ indicator is green

1 **Remove any plugs from the video input 1 and 2 connectors, or turn off the connected computer(s).**

2 **Press and hold the ◑➡ button for 2 seconds.**

If all four color bars appear (white, red, green, blue), the monitor is working properly. Reconnect the video input cables and check the condition of your computer(s).

If the color bars do not appear, there is a potential monitor failure. Inform your authorized Sony dealer of the monitor's condition.

If the ⏻ indicator is flashing orange

Press the ⏻ button to turn the monitor off and on.

If the ⏻ indicator lights up green, the monitor is working properly.

If the ⏻ indicator is still flashing, there is a potential monitor failure. Count the number of seconds between orange flashes of the ⏻ indicator and inform your authorized Sony dealer of the monitor's condition. Be sure to note the model name and serial number of your monitor. Also note the make and model of your computer and video board.

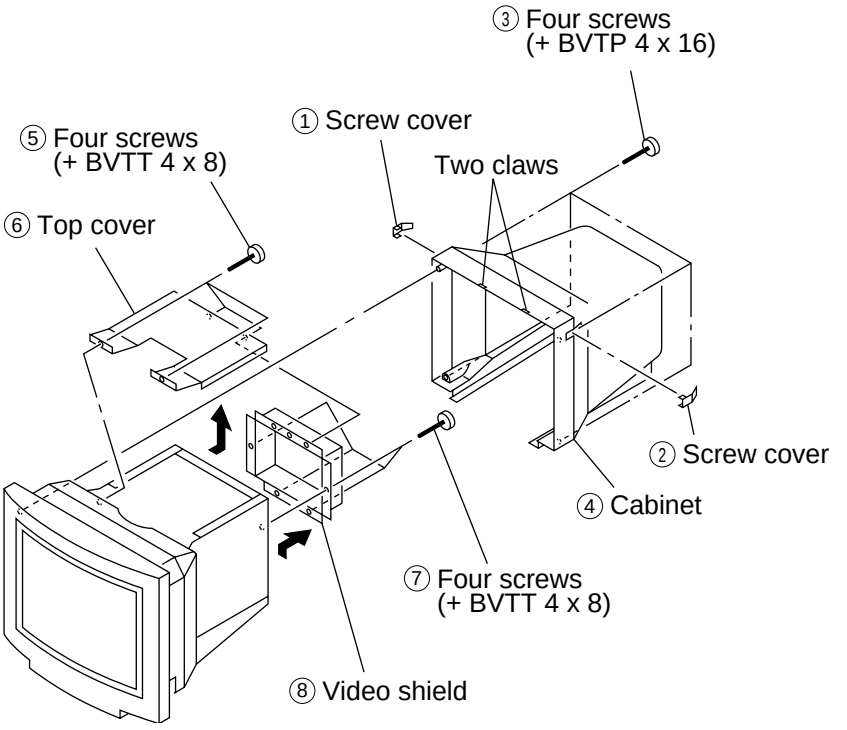
Specifications

Picture tube	0.25 – 0.27 mm aperture grille pitch 21 inches measured diagonally 90-degree deflection
Viewable image size	Approx. 403.8 × 302.2 mm (w/h) (16 × 12 inches) 19.8″ viewing image
Resolution	Horizontal: Max. 1600 dots Vertical: Max. 1200 lines
Standard image area	Approx. 388 × 291 mm (w/h) (15 3/8 × 11 1/2 inches) or Approx. 364 × 291 mm (w/h) (14 3/8 × 11 1/2 inches)
Deflection frequency	Horizontal: 30 to 96 kHz Vertical: 48 to 160 Hz
AC input voltage/current	100 to 240 V, 50 – 60 Hz, 2.0 – 1.0 A
Power consumption	Max. 160 W
Dimensions	498 × 505 × 474 mm (w/h/d) (19 5/8 × 20 × 18 3/4 inches)
Mass	Approx. 31 kg (68 lb 5 oz)
Supplied accessories	See page 6

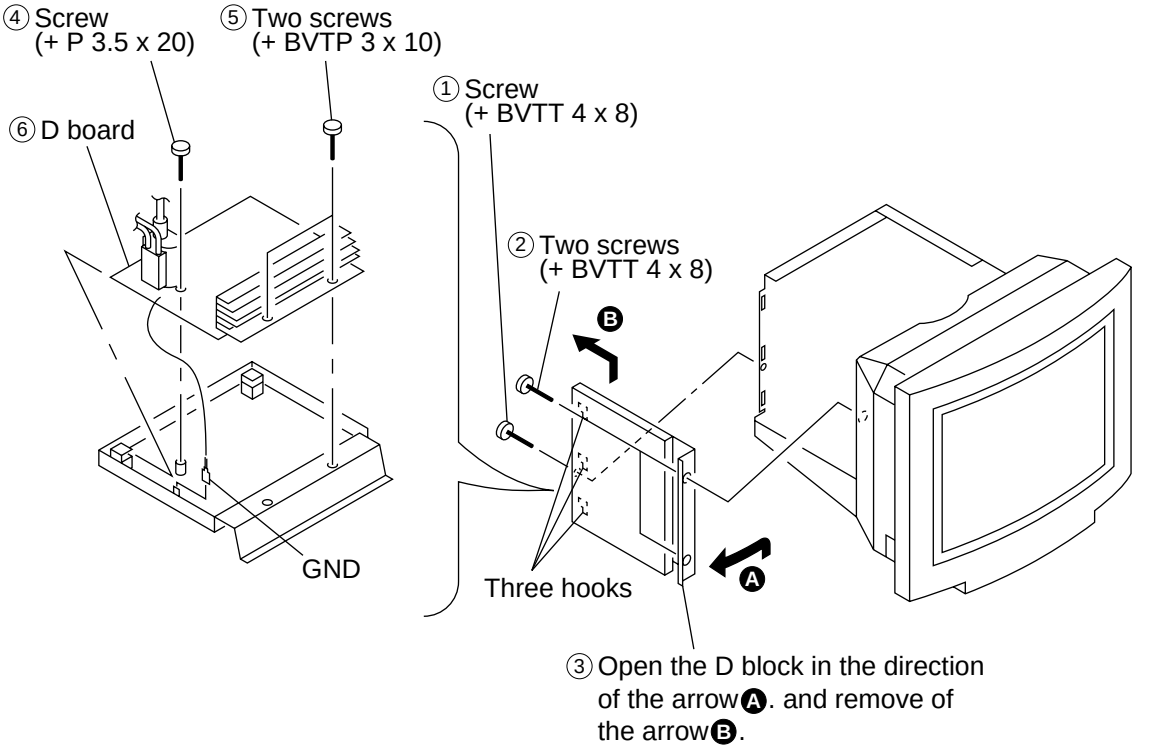
Design and specifications are subject to change without notice.

SECTION 2
DISASSEMBLY

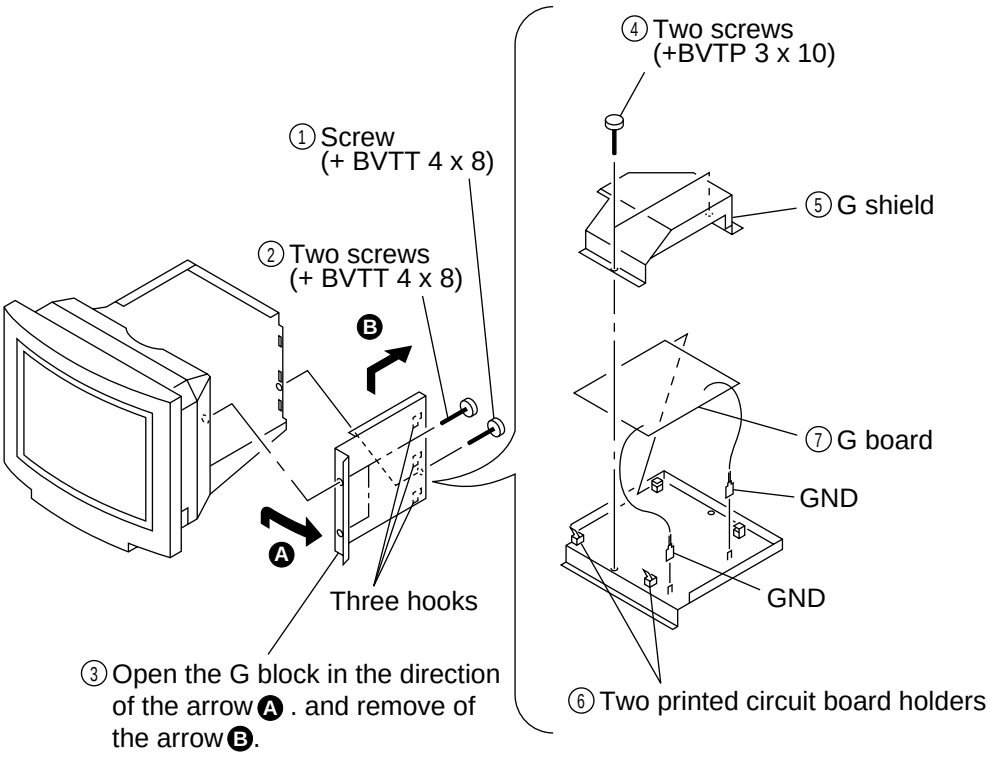
2-1. CABINET REMOVAL



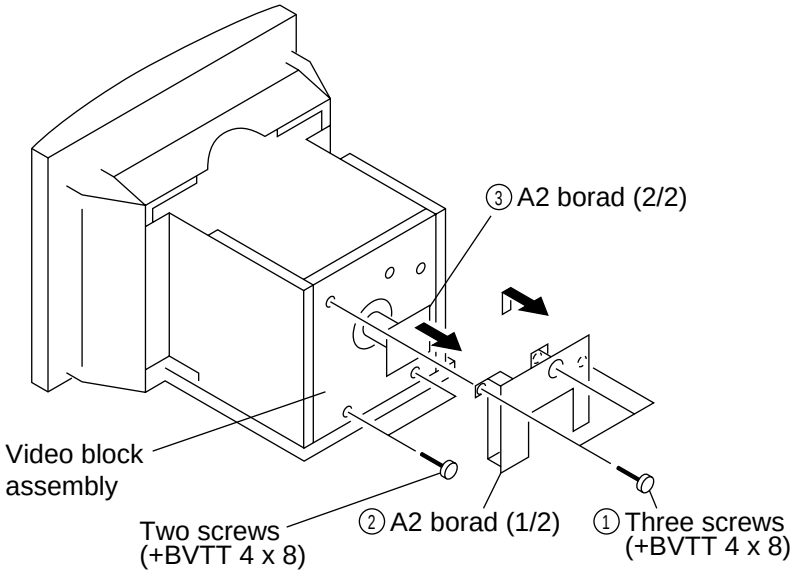
2-2. D BOARD REMOVAL



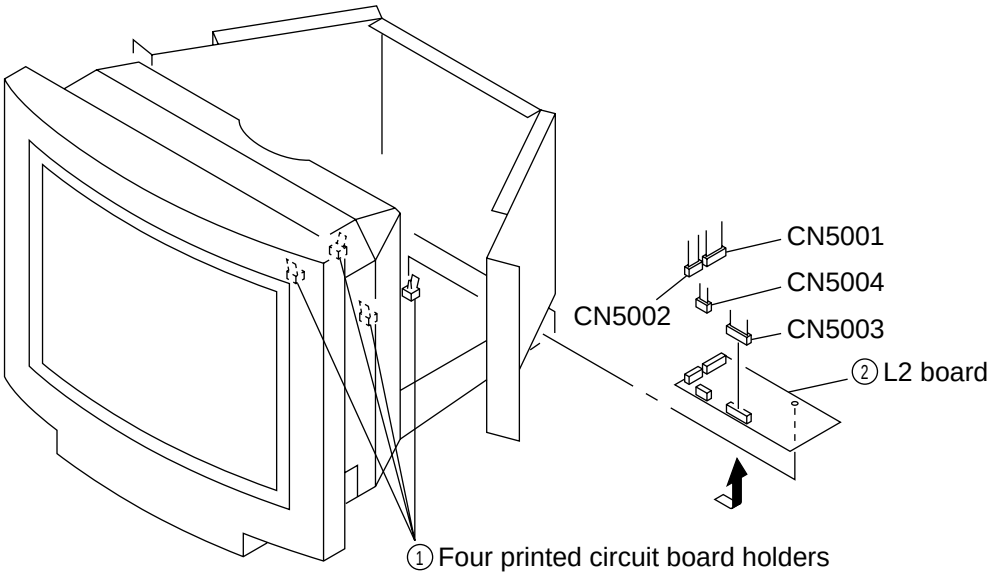
2-3. G BOARD REMOVAL



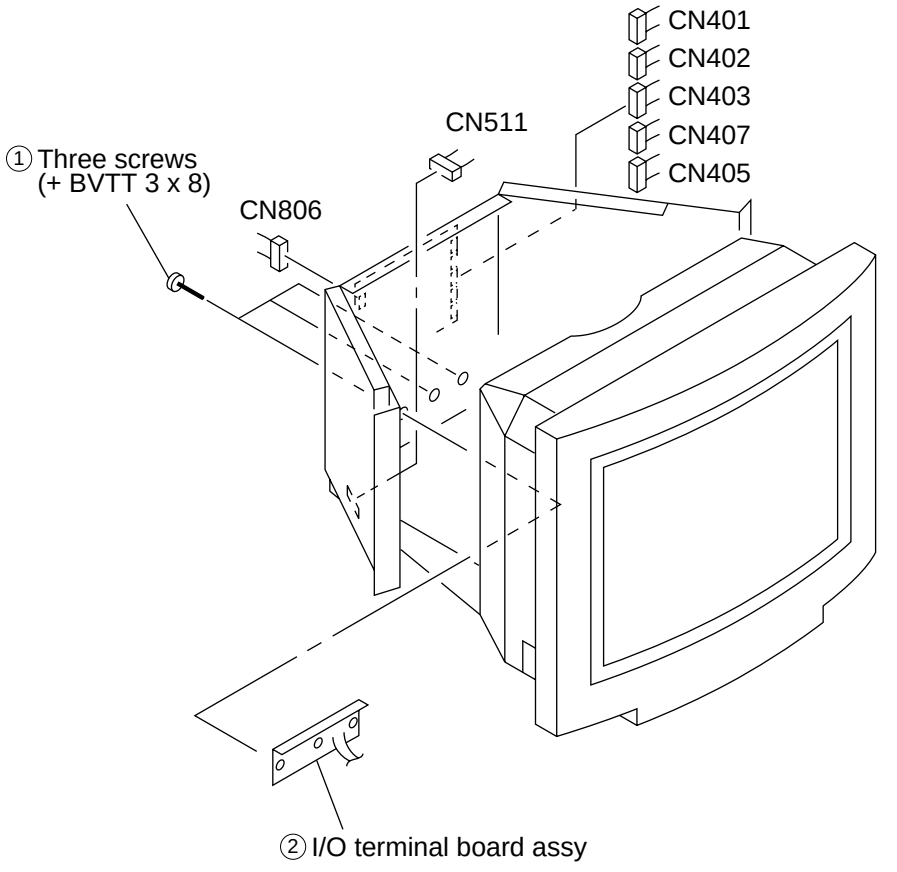
2-4. A2 BOARD REMOVAL



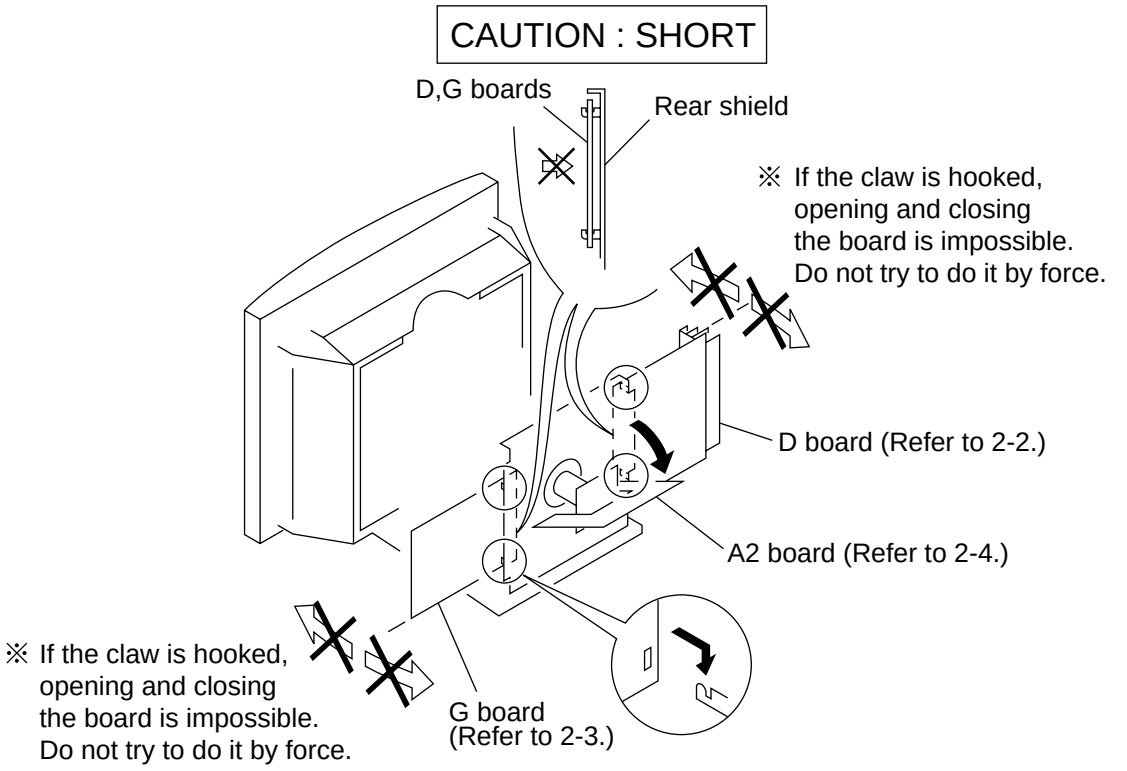
2-5. L2 BOARD REMOVAL



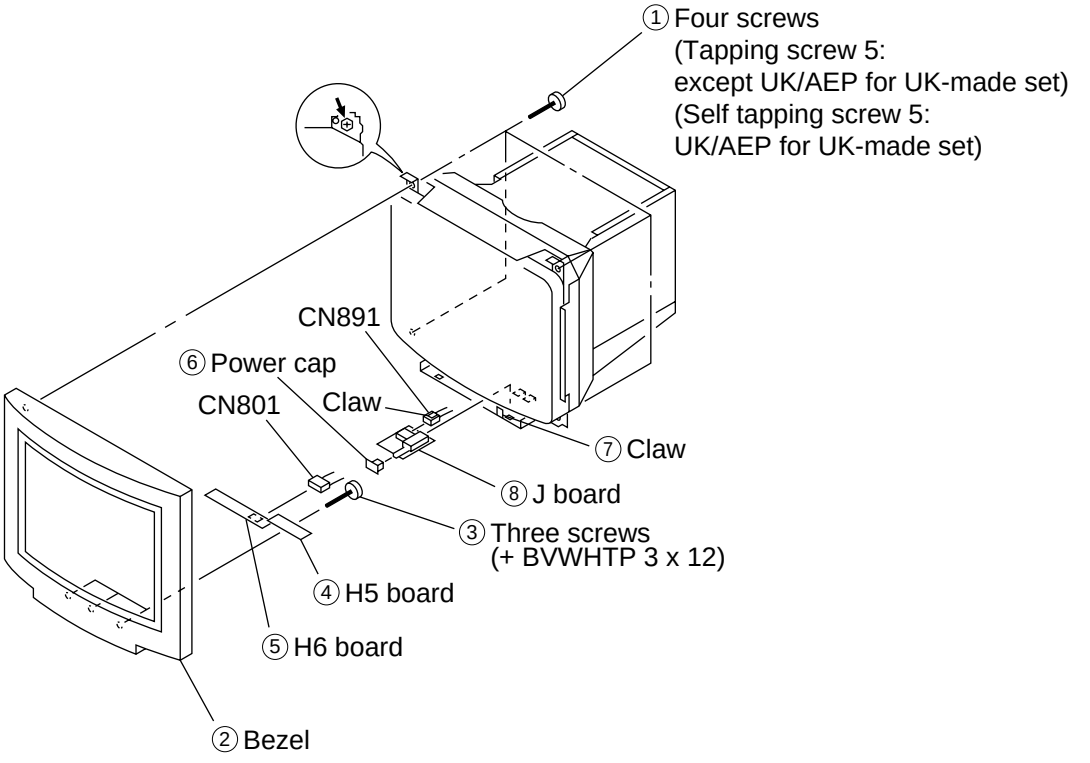
2-6. I/O TERMINAL BOARD ASSY REMOVAL



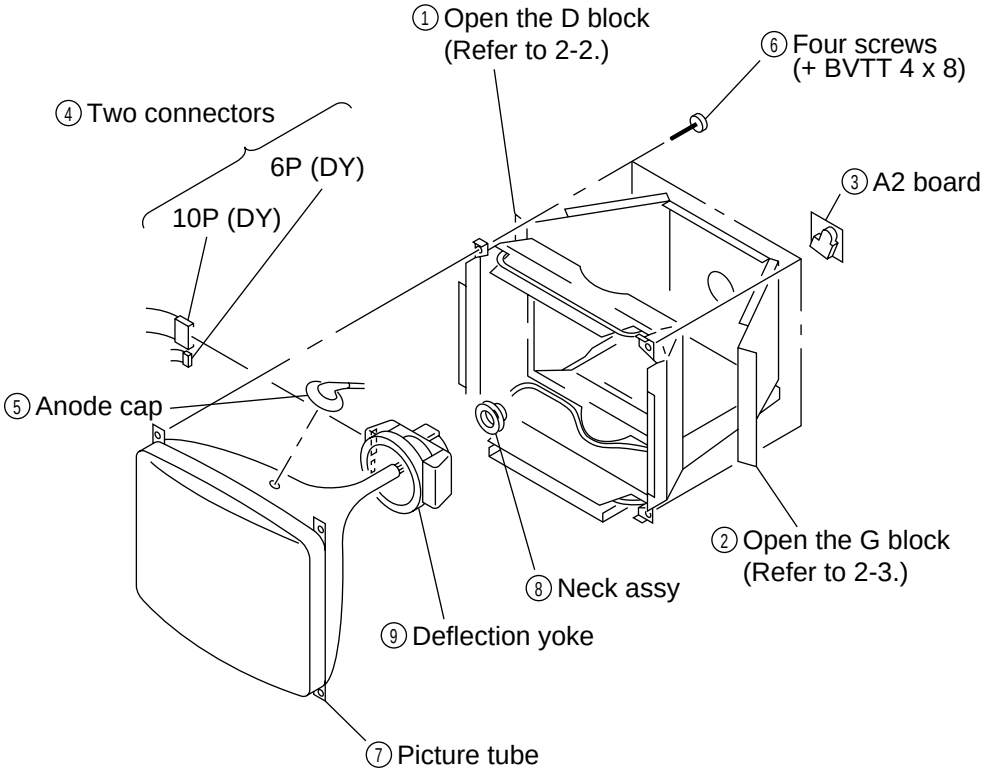
2-7. SERVICE POSITION


CAUTION : SHORT
D,G boards
Rear shield
※ If the claw is hooked, opening and closing the board is impossible. Do not try to do it by force.
D board (Refer to 2-2.)
A2 board (Refer to 2-4.)
※ If the claw is hooked, opening and closing the board is impossible. Do not try to do it by force.
G board (Refer to 2-3.)

2-8. H5, H6 AND J BOARDS REMOVAL


① Four screws (Tapping screw 5: except UK/AEP for UK-made set) (Self tapping screw 5: UK/AEP for UK-made set)
CN891
⑥ Power cap
CN801
Claw
⑦ Claw
⑧ J board
③ Three screws (+ BVWHTP 3 x 12)
④ H5 board
⑤ H6 board
② Bezel

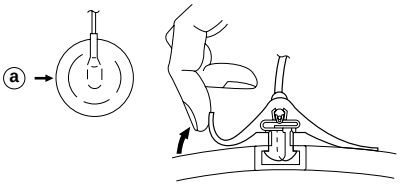
2-9. PICTURE TUBE REMOVAL



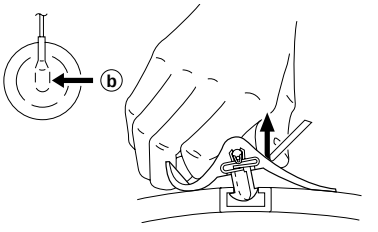
• REMOVAL OF ANODE-CAP

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

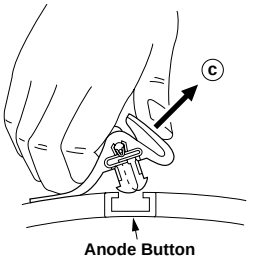
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



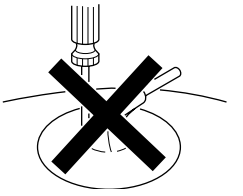
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

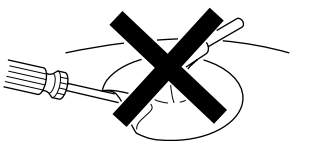


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

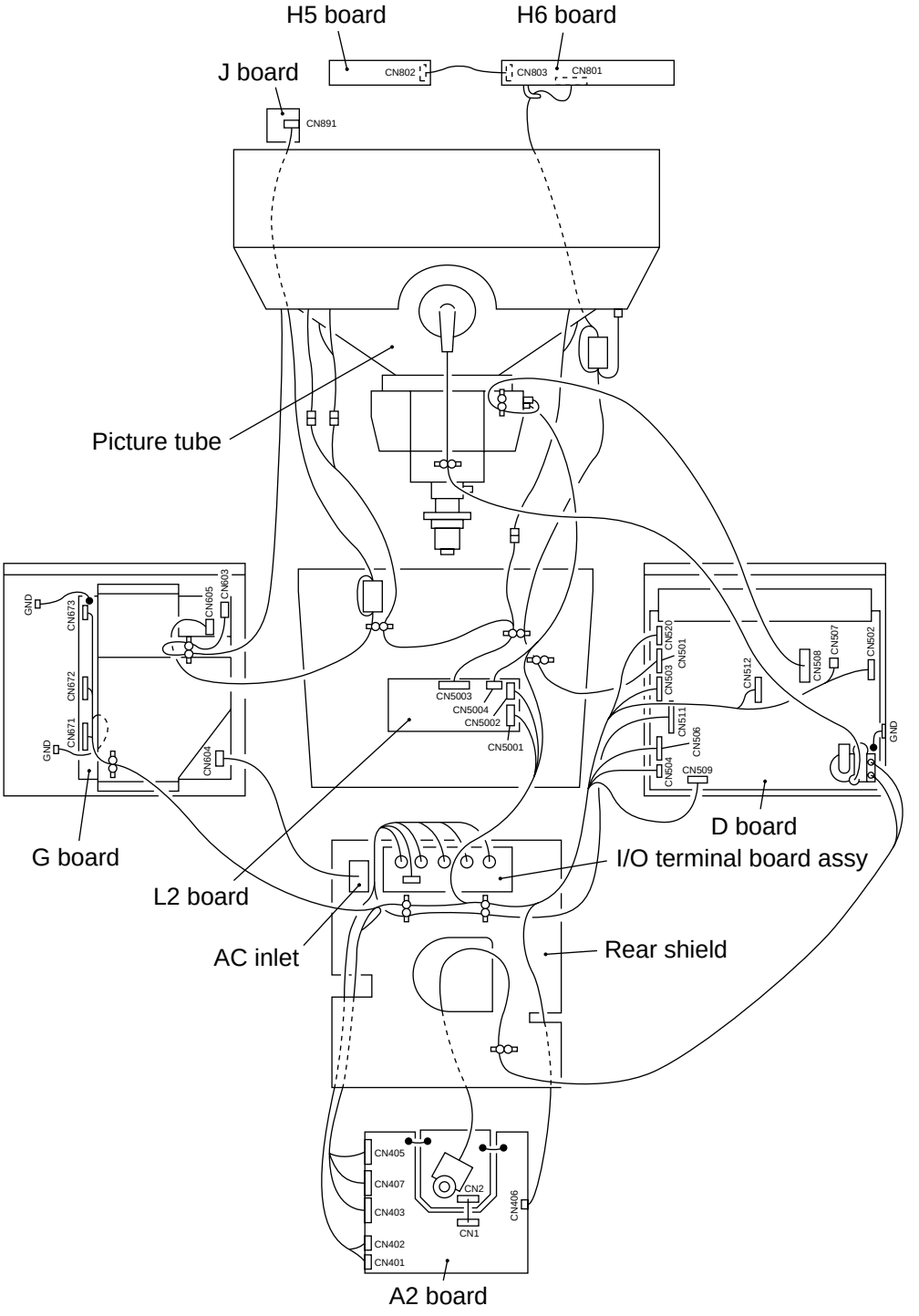
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with shartp shaped material!
② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





2-10. HARNESS LOCATION



SECTION 3
SAFETY RELATED ADJUSTMENT

When replacing or repairing the shown below table, the following operational checks must be performed as a safety precaution against X-rays emissions from the unit.

	Part Replaced (◪)
HV Regulator Circuit Check	D Board IC901, T902 (FBT) • Mounted D board
HV Protector Circuit Check	D Board Q660, Q661, D916, D935, C924, R665, R667, R940, R980, T902 (FBT) • Mounted D board G Board PH680, Q680, Q683, D680, R680, R685, R686, R687, R688, R689 • Mounted G board
Beam Current Protector Circuit Check	D Board IC901, D904, D907, D908, R011, R908, R909, R921, R925, R926, R929, R930, T902 (FBT) • Mounted D board

Check Condition

Input voltage : 100 ~ 240 VAC
Input signal : White Cross Hatch at 107 kHz
Beam control : BRT and CONT → Minimum
B+ voltage : 180 VDC

a) HV Regulator Circuit Check

1) Confirm that the voltage of the pin ② of CN901 on D board is within the voltage range shown below.
Standard: 9.00 ± 0.065 VDC

b) HV Protector Circuit Check

1) Confirm that the HV protector circuit works and TV Raster disappears when apply the voltage as shown below between pin ③ of CN901 on D board and GND using an external DC power supply.
Check Condition: Less than 34.10 VDC

c) Beam Current Protector Circuit Check-1

1) Measure HV voltage and record that value.
2) Shorted between pin ① and pin ④ of CN901 on D board.
3) Connect to the Constant Current Jig (A) between pin ① of CN901 on D board and GND, confirm that the Beam Current Protector Circuit works and HV go down more than 1.25 kV from the value of (1).
Check Condition: 1.50 mA

d) Beam Current Protector Circuit Check-2

1) Connect to the Constant Current Jig (B) between pin ① of CN901 on D board and GND, confirm that the Beam Current Protector Circuit works and TV Raster disappears.
Check Condition: 1.59 mA

e) Voltage of 3rd winding of FBT

1) Confirm that the voltage of pin ③ of CN901 on D board is within the voltage range shown below.
Standard: more than 28.0 VDC

SECTION 4
ADJUSTMENTS

Note: Hand degauss must be used on stand-by or power-off condition.
This model has an automatic earth magnetism correction function by using an earth magnetism sensor and a LCC coil. When using a hand degauss while monitor (LCC coil) is being operated, it sometimes gets magnetized, and the system may not work properly as a result.

• Landing Rough Adjustment

1. Enter the full white signal. (or the full black dots signal).
2. Adjust the contrast to the maximum.
3. Make the screen monogreen.

Note: Off the outputs from R ch and B ch of SG.

4. Reverse the DY, and adjust coarsely the purity magnet so that a green raster positions in the center of screen.
5. Adjust the tilt of DY, and fix lightly with a clamp.

Note: "TILT" shall be set at 0.

• Landing Fine Adjustment

1. Put the set inside the Helmholtz coil. ("LCC SW" = "12")
2. Input the single green signal and set the CONT control to MAX.

Note: After the W/B adjustment with 9300K, measure an average of ΣIk when a full white signal is entered in the CONT MAX/BRT CENT status. Then make adjustment so that the specified screen can be attained after aging for 2 hours with Ik equivalent to 30% of the average value.

3. Demagnetize the metal part of the chassis with the hand degausser and coil degausser, and the CRT surface with the hand degausser.
   Input AC 230V to AC IN, turn on and off the power to perform auto degaussing. (Perform auto degaussing by setting "MON CON REG2"=152. Return to the original value after use.)
   Demagnetize the CRT surface with the hand degausser again.

Note:

(1) Hand degauss must be used on stand-by or power-off condition.
   This model has an automatic earth magnetism correction function by using an earth magnetism sensor and a LCC coil. When using a hand degauss while monitor (LCC coil) is being operated, it sometimes gets magnetized, and the system may not work properly as a result.
(2) Adjust in a non-magnetic field. BV=45uT.
(3) If adjusting in a magnetic fields, add the shift from the non-magnetic field in your estimation.

4. Attach the wobbling coil to the designated part of the CRT neck.
5. Attach the sensor of the landing adjustment unit on the CRT surface.
6. Adjust the DY position and purity, and the DY tilt, and landing of the center and 4 corners with the landing checker.
   After adjustment, set "LCC SW" to "13".
   • Write terrestrial magnetism sensor reading VX and VY to "LCC VX" and LCC VY" respectively. Adjust the landing by moving "LCC NS", "LCC LT", "LCC LB", "LCC RT" and "LCC RB". However, the register adjustment must be limited within the following range.
   "LCC NS" 128 ± 15
   "LCC LT", "LCC LB", "LCC RT", "LCC RB" 128 ± 40
   Save the service data.

<Specifications>
Adjust so that the green is within the specification given right.
4 corner adjust target : within ± 1

(μm)

0 ± 3	0 ± 7.5	0 ± 3
0 ± 5	0 ± 5	0 ± 5
0 ± 3	0 ± 7.5	0 ± 3

The red and blue must be within the specification given right with respect to the green.

(μm)

± 6	± 6	± 6
± 6	± 4	± 6
± 6	± 6	± 6

A difference between red and blue must be within the specification given right.

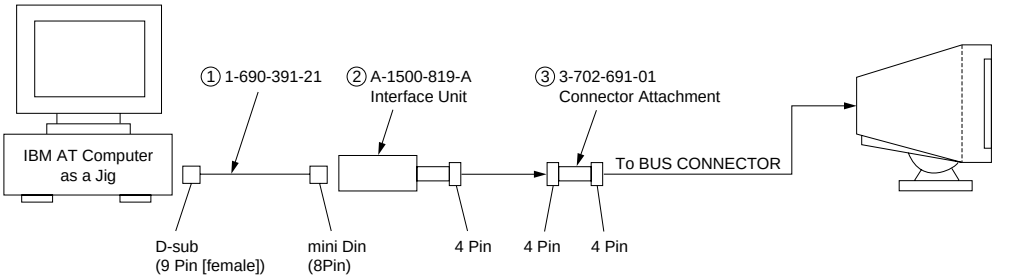
(μm)

10	10	10
10	7	10
10	10	10

* Adjustment and measurement should be made at the points one inch inside the fluorescent screen.

7. For the up/down swing, swing the DY and insert a wedge so that the up and down pins are equal at the top and bottom. Adjust the DY TLV VR so that the horizontal trapezoid is equal at the left and right. Insert the wedge firmly so that the DY does not shake.
8. Check the landing of each corner, and if it does not satisfy the specification, adjust the landing of four corners using "LCC LT", "LCC LB", "LCC RT" and "LCC RB".
   However, the register adjustment must be limited within the following range.
   "LCC NS" 128 ± 15
   "LCC LT", "LCC LB", "LCC RT", "LCC RB" 128 ± 40
   After adjustment, save the service data.
9. Remove the sensor and wobbling coil.
10. Switch the signal to R.G.B., and check that each color is pure.
11. Check that the DY is not tilting.

Connect the communication cable of the computer to the connector located on the D board on the monitor. Run the service software and then follow the instruction.



*The parts above (① ~ ③) are necessary for DAS adjustment.

- **Convergence Rough Adjustment**

(1) Receive an image of the white crosshatch signals (white lines on black).
(2) Place the protrusions of the 6-fold poles magnet attached to the CRT neck upon each other. (Fig. 1)
(3) Make rough adjustment of the H and V direction convergence by using 4-fold poles magnet.
(4) Make a rough adjustment of the V direction convergence by using "V. STAT".

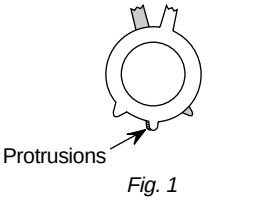


Fig. 1

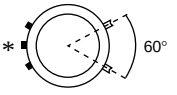


Fig. 3

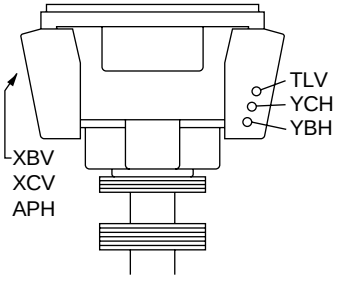
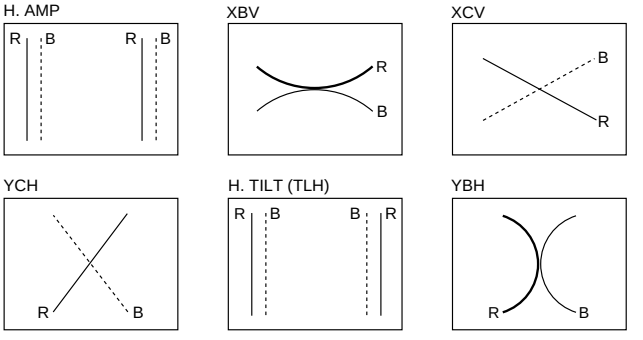
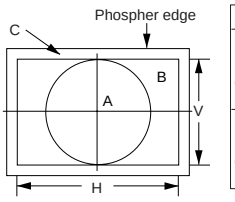


Fig. 2

* Set so that the protruding parts of the 2 magnet rings agree with each other.



- **Convergence Specification**

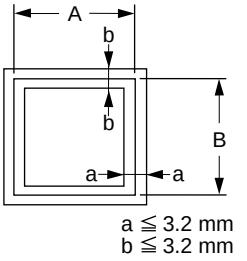


MODE	Zone	N. Hemisphere	S. Hemisphere
fH≥ 60 kHz	A Zone	0.24 mm	0.24 mm
	B Zone	0.24 mm	0.28 mm
	C Zone	0.32 mm	0.32 mm
fH≤ 60 kHz	A Zone	0.24 mm	0.28 mm
	B Zone	0.32 mm	0.36 mm
	C Zone	0.36 mm	0.40 mm

- **White Balance Adjustment Specification**

(1) 9300K
x = 0.283 ± 0.005
y = 0.298 ± 0.005
(All White)
(2) 6500K
x = 0.313 ± 0.005
y = 0.329 ± 0.005
(All White)

- **Vertical and Horizontal Position and Size Specification**

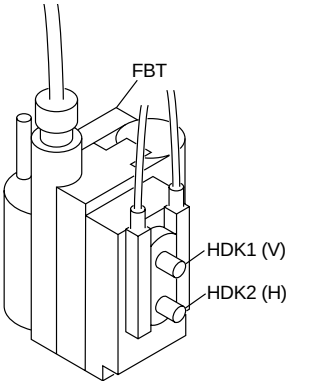


a ≦ 3.2 mm
b ≦ 3.2 mm

MODE	1, 2
A	388 mm
B	291 mm

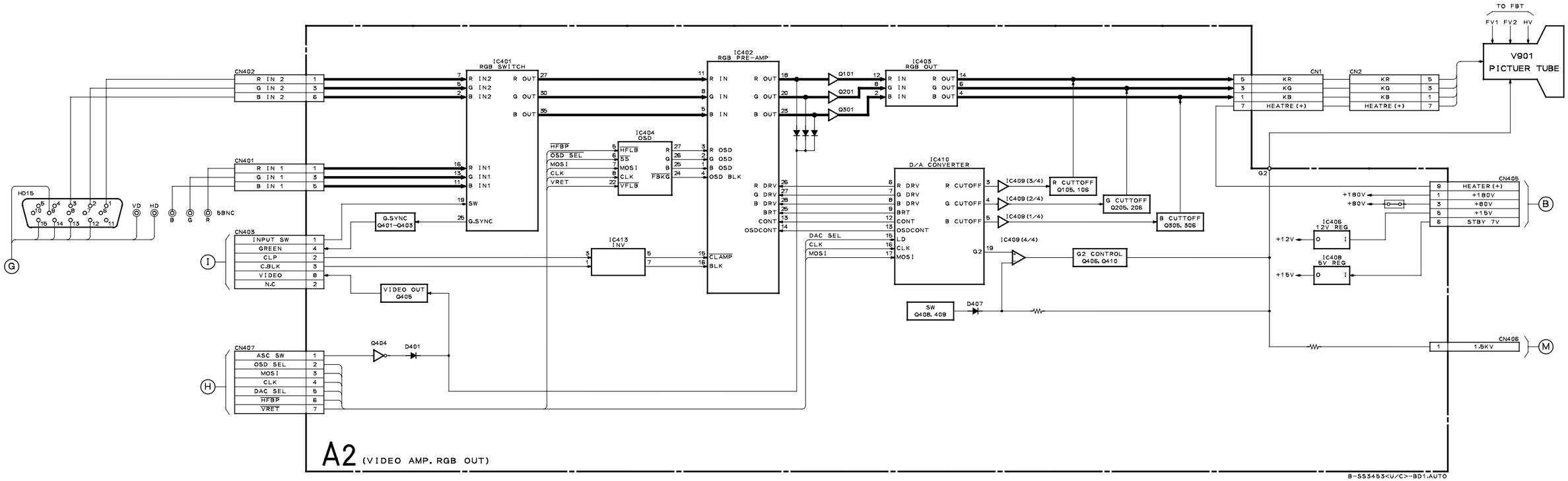
- **Focus adjustment**

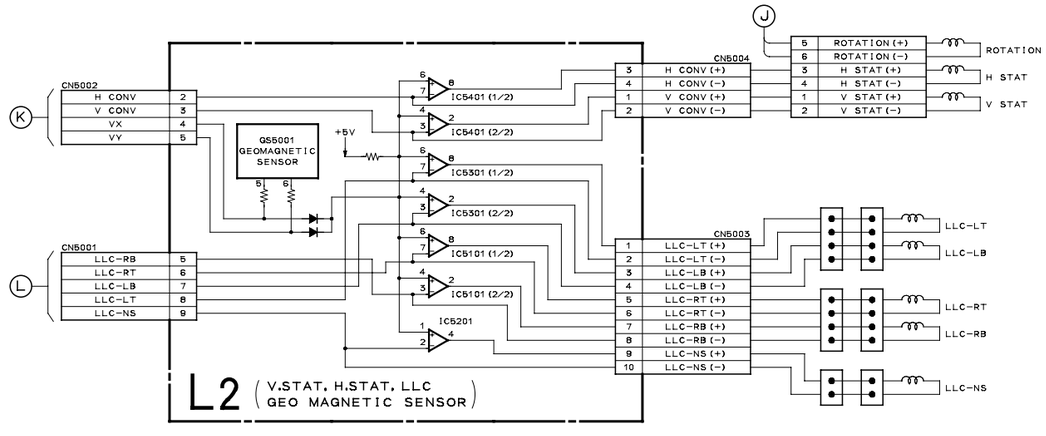
Adjust the focus volume 1 and 2 (HDK 1 and 2) for the optimum focus.



SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS





D (U-COM, DEFLECTION)

CN511: C.SYNC1 3, V.SYNC1 4, C.SYNC2 5, V.SYNC2 6, DGC SDA 1 8, DGC SCL 1 10, DGC SDA 2 11, DGC SCL 2 13, HOST +5V 1 9, HOST +5V 2 12
CS1, VS1, CS2, VS2
IC002 EEPROM (V CLK, SDA, VCC, SCL)
D035
IC004 EEP ROM (EEP SDA, EEP SCL)
9V SW Q006 — 5V-2
DGC SDA 2, DGC SCL 2, EEP SDA, EEP SCL

CN501: LED0 1, LED1 2, CONT VR 3, BRT VR 4, KEY DET 5, ANY DRV 6
LED0, LED1, LED2, LED3, KEY DET, P65/ANS
TH501, TH502 (9V, 9V)
P66/ANS, TH DET Q512, TH DET

CN505: RXD 3, TXD 4
RXD, TXD

CN503: ASC SW 1, DSA SEL 2, MOSI 3, CLK 4, DAC SEL 5, HFLB 6, VRET 7
ASC SW, OSD SET, DAC SEL, HFBP, VRET

IC009

DMP CLK, DMP DO, DMP DI, DMP ID

INPUT SEL

CN506: LDWB DET 2, INPUT SW 6, CLP 2, C.BLK 3, GREEN 4, VIDEO 8

IC007 DPU
CLP OUT, CBLK OUT, SONG, VIDEO, INPUT SEL, CLK, DO, DI, ID, FBPIN, HS/CS2, VS1, HS/CS2, VS2, TILT
HTIM, VIDEO OUT, VS OUT, HS OUT, VDF, HCENT, H SHAPE BAL, V SHAPE, VDC, V CONV, MOIRE, H SHAPE, H SIZE

CS1, VS1, CS2, VS2
IC013

CN509: ROTATION (−) 2, ROTATION (+) 1
IC701 CURRENT AMP (V S2, OUT2)
+15V

IC001 CPU
VX, VY, H CONV, DGC, HTR SW, POWER SW
PROT DET, LLC LT, LLC RT, LLC LB, LLC RB, LLC NS
HSTJ, HSTX, WDV
ABL DET, HV DET
S0, S1, S2, S3, S4, S5, S6
XTALO, XTALI, +B DET
HPLL, IIC SDA, IIC SCL, HS, VS, ASC
VRET

Q660, Q661, HV PROT
IC005 WDT (RESET, CK)
X001 4MHz
+200V, +15V
FOFT START SW Q001

CN520: VX 4, VY 5, H CONV 2, V CONV 3 — K
CN504: DGC 1, POWER 2, MTR 5V 3, STBY 8V 4 — D
PS504
IC006 5V REG — STBY5V

V CONV, V SHAPE, VDC, VRET
IC705, IC702 V OUT (−V IN, +V IN, OUT)

S CAP CHANGE Q522–528
L503 HLC, RY501
RELAY DRIVE Q509
PIN AMP Q517
Q510
T503 HST
H CENT CONTROL Q511
IC602 POWER OP AMP (VCC, −VIN, +VIN, OUT, VEE)
T504 HCC
PS502
IC008 9V REG, IC003 9V REG

H CENT, H SHAPBAL, H SIZEFB

IC010 SYNC PROCESS5
AFC2, AFC1, SDA, SCL, HSYNC, H PHASE, PWM REF, SOFT START
PWM OUT, HB OUT, FBP, DF OUT, HVD OUT
Q004, Q007

+20V, PS506
PIN OUT Q507
T502 HOC
D520, D512, D505
PIN DRIVE Q501–Q503
H DRIVE Q504–Q506
T501 HDT
H OUT Q508
Q003
H DF OUT Q702, Q709–Q711
V DF OUT Q707, Q708
T701 DFT

START PROT Q911
Q005

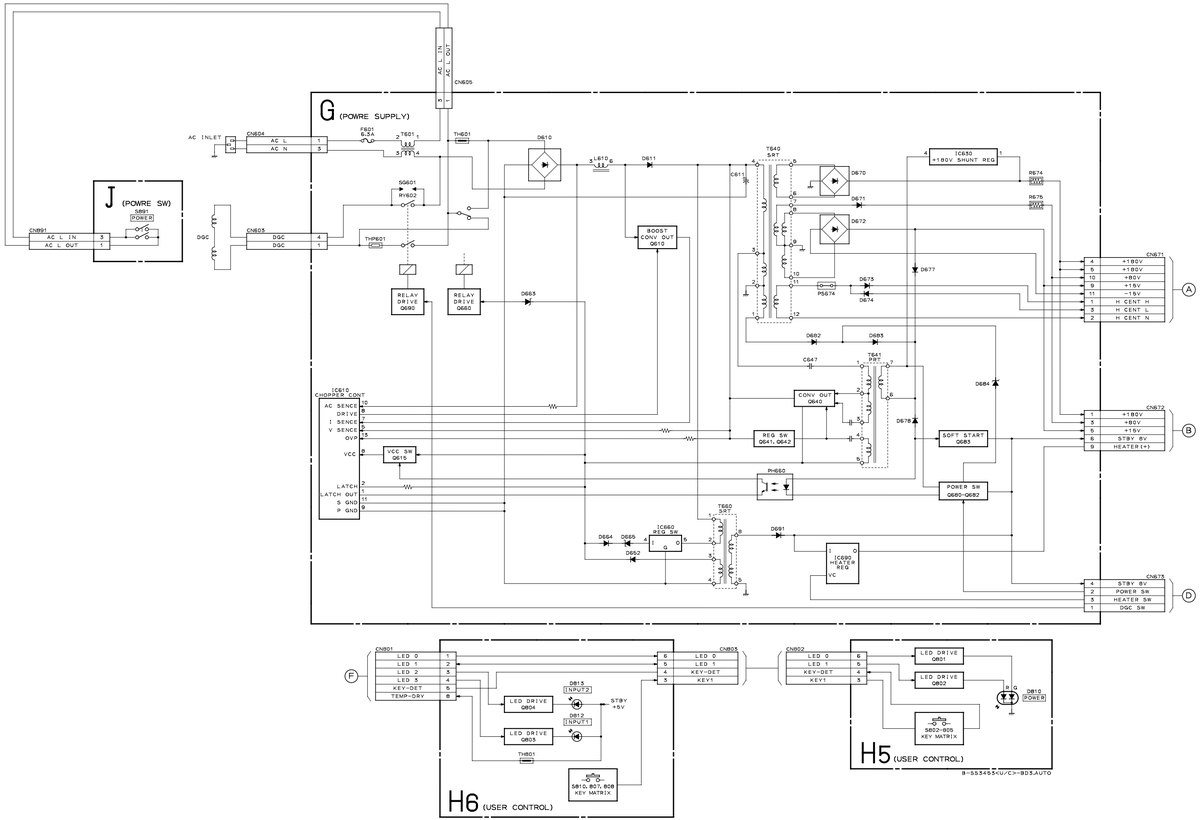
IC901 HV CONTROL (ERR IN, HD IN, PWM OUT, BTC IN, ERR REF, VREG)
HV DRIVE Q901, Q906, Q905
HV OUT Q909
HV REG SW Q707, Q708
T901 HRC
PS901, +200V
Q902
T902 FBT
HV DET, HV PROT, ABL DET

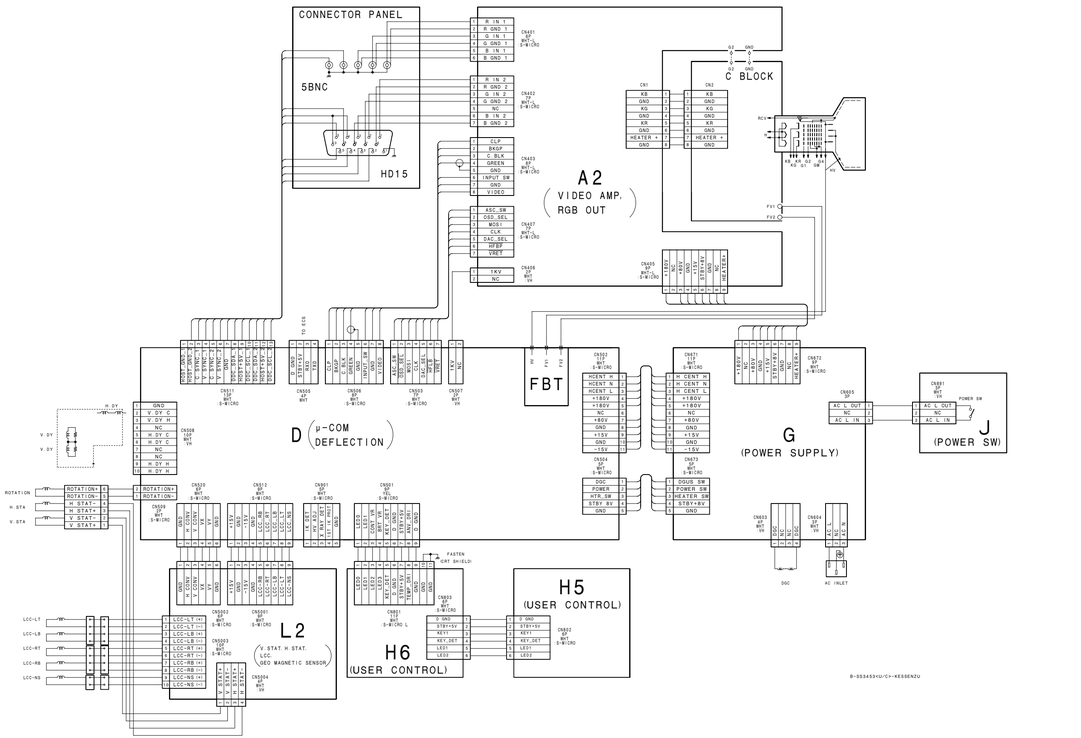
CN901: 1ST IK PROT 4, HV ADJ 2, X RAY DET 3, IK DET 1

CN512: LLC RB 5, LLC RT 6, LLC LB 7, LLC LT 8, LLC NS 9 — L
CN508: V.DY C 2, V.DY H 3, H.DY C 5, H.DY C 6, H.DY H 9, H.DY H 10
V.DY, H.DY
CN502: +180V 4, +180V 5, +80V 7, −15V 11, +15V 9, HCENT H 1, HCENT N 2, HCENT L 3 — A
+180V, +80V, −15V, PS503
CN507: 1KV 1 — M
HV, FV1, FV2, TO PICTUER TUBE

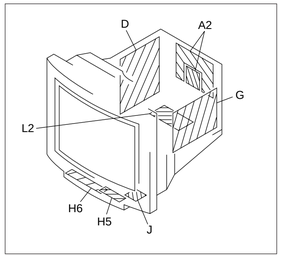
B-SS3453<U/C>-BD2.AUTO

5-2. FRAME SCHEMATIC DIAGRAM





5-3. CIRCUIT BOARDS LOCATION



Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- All voltages are in V.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ✻ : Can not be measured.
- Circled numbers are waveform references.
- ——— : B + bus.
- - - - : B − bus.

5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted. (pF: μμF) Capacitors without voltage indication are all 50 V.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4 W (CHIP : 1/10 W)

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth-ground.
- ⏚ : earth-chassis.
- The components identified by H in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. (See page 3-1)
- When replacing the part in below table, be sure to perform the related adjustment.

	Part replaced (◪)	
HV Regulator Circuit Check	D Board	IC901, T902 • Mounted D board
HV Protector Circuit Check	D Board	Q660, Q661, D916, D935, C924, R665, R667, R940, R980, T902 • Mounted D board
	G Board	PH680, Q680, Q683, D680, R680, R685, R686, R687, R688, R689 • Mounted G board
Beam Current Protector Circuit Check	D Board	IC901, D904, D907, D908, R011, R908, R909, R921, R925, R926, R929, R930, T902 • Mounted D board

Terminal name of semiconductors in silk screen printed circuit (✻)

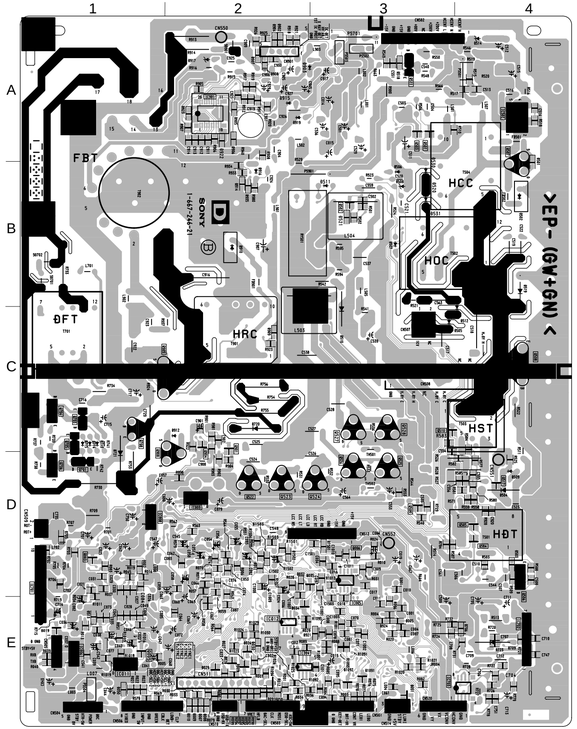
	Device	Printed symbol	Terminal name	Circuit
①	Transistor	T	Collector Base Emitter	
②	Transistor	—	Collector Base Emitter	
③	Diode	—	Cathode Anode	
④	Diode	T	Cathode Anode (NC)	
⑤	Diode	—	Cathode Anode (NC)	
⑥	Diode	T	Common Anode Cathode	
⑦	Diode	—	Common Anode Cathode	
⑧	Diode	T	Common Anode Anode	
⑨	Diode	—	Common Anode Anode	
⑩	Diode	T	Common Cathode Cathode	
⑪	Diode	—	Common Cathode Cathode	
⑫	Diode	▌	Anode Cathode Anode Anode Cathode Anode	
⑬	Transistor (FET)	▌	Drain Source Gate	
⑭	Transistor (FET)	┣	Drain Source Gate	
⑮	Transistor (FET)	▌	□ Source □ Drain □ Gate	
⑯	Transistor	▌	□ Emitter □ Collector □ Base	
—	Discrete semiconductor			

(Chip semiconductors that are not actually used are included.)

Ver.1.5

D [μ-COM, DEFLECTION]

— D BOARD (Conductor Side) —



• D BOARD SEMICONDUCTOR LOCATION

IC

	(Conductor Side)	(Component Side)
IC001		E–2
IC002		E–3
IC003	D–2	D–3
IC004	E–2	
IC005	D–3	
IC006	E–1	E–4
IC007		D–3
IC008	D–1	D–3
IC009		D–2
IC010		E–4
IC011	E–1	E–4
IC013		E–3
IC502	A–4	A–1
IC505		D–3
IC701	D–1	D–4
IC702	E–4	E–1
IC703	E–4	
IC901	A–2	

TRANSISTOR

	(Conductor Side)	(Component Side) ✻
Q001		D–4 ②
Q003	D–1	①
Q004		D–4 ②
Q005	E–1	①
Q006	D–3	①
Q007		D–3 ②
Q501	A–3	①
Q502	B–3	①
Q503	A–3	①
Q504	D–4	①
Q505	D–4	①
Q506	D–4	D–1 –
Q507	B–4	B–1 –
Q508	C–4	C–1 –
Q509	D–3	①
Q510	C–3	①
Q511	A–3	A–2 –
Q512		D–2 ②
Q517	D–4	①
Q522	D–2	D–3 –
Q523	D–2	D–2 –
Q524	D–3	D–2 –
Q525	D–3	D–2 –
Q526	D–3	D–2 –
Q527	C–3	C–2 –
Q528	C–3	C–2 –
Q660		D–2 ②
Q661		D–2 ②
Q701	D–1	D–4 –
Q703	C–1	C–4 –
Q704	C–1	C–4 –
Q705	C–1	C–4 –
Q706	D–1	D–4 –
Q707		D–3 ②
Q708	C–1	C–4 –
Q901	C–2	①
Q902		A–3 ②
Q904	C–2	①
Q905		C–3 ②
Q908	D–2	D–3 –
Q909	C–2	C–3 –
Q911		D–3 ②

DIODE

	(Conductor Side)	(Component Side) ✻
D004		①
D009	E–2	①
D010	E–2	①
D012		E–2 ①
D013		E–2 ①
D014		E–2 ①
D015		E–2 ①
D016		E–2 ①
D019	E–1	①
D020		E–4 ①
D025		D–4 ①
D026	E–2	①
D027	E–2	①
D028	E–2	①
D029	E–2	①
D032	D–2	①
D035	D–3	①
D050	E–1	①
D501	B–4	①
D502	B–4	B–1 –
D503	D–4	①
D504	D–4	D–1 –
D505	C–3	C–1 –
D506	B–3	B–2 –
D507	B–3	B–2 –
D508	B–3	B–2 –
D509	D–4	D–1 –
D510	C–3	C–2 –
D511	B–3	B–2 –
D512	C–4	C–1 –
D513	E–1	①
D514	A–4	A–1 –
D516		D–2 ①
D517		D–2 ①
D518	A–3	①
D519	B–4	B–1 –
D520	B–3	B–2 –
D521	B–3	①
D660		D–2 ①
D701		D–4 ①
D704		D–4 ①
D705	D–1	①
D706	E–4	①
D709	E–4	E–1 –
D713	C–1	C–4 –
D714	C–1	C–4 –
D715	C–1	C–4 –
D718		D–4 ①
D720	C–2	C–3 –
D721	D–1	D–4 –
D901		C–3 ①
D902	A–2	①
D903	A–2	A–2 –
D904	A–2	①
D905	A–2	①
D906	A–2	①
D907	A–2	①
D908	A–2	①
D909	C–2	①
D910	B–2	B–3 –
D911		C–3 ①
D913		A–3 ①
D915	A–2	A–2 –
D916	B–2	B–3 –
D917	A–2	A–3 –
D919	A–2	A–2 –
D921	E–3	①
D922	A–2	①
D923	A–2	①
D935	B–2	①
D1092	E–3	①
D1501	D–3	①
D1502	D–2	①
D1503	D–2	①

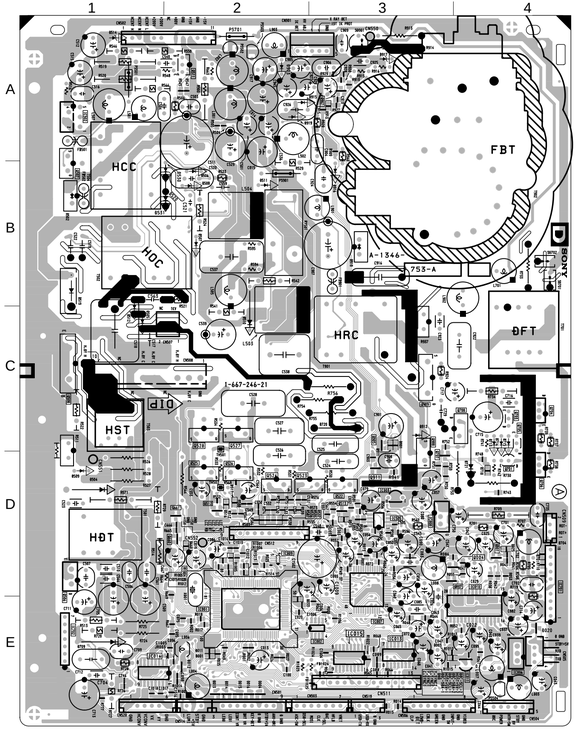
CRYSTAL

	(Conductor Side)	(Component Side)
X001	D–3	D–2

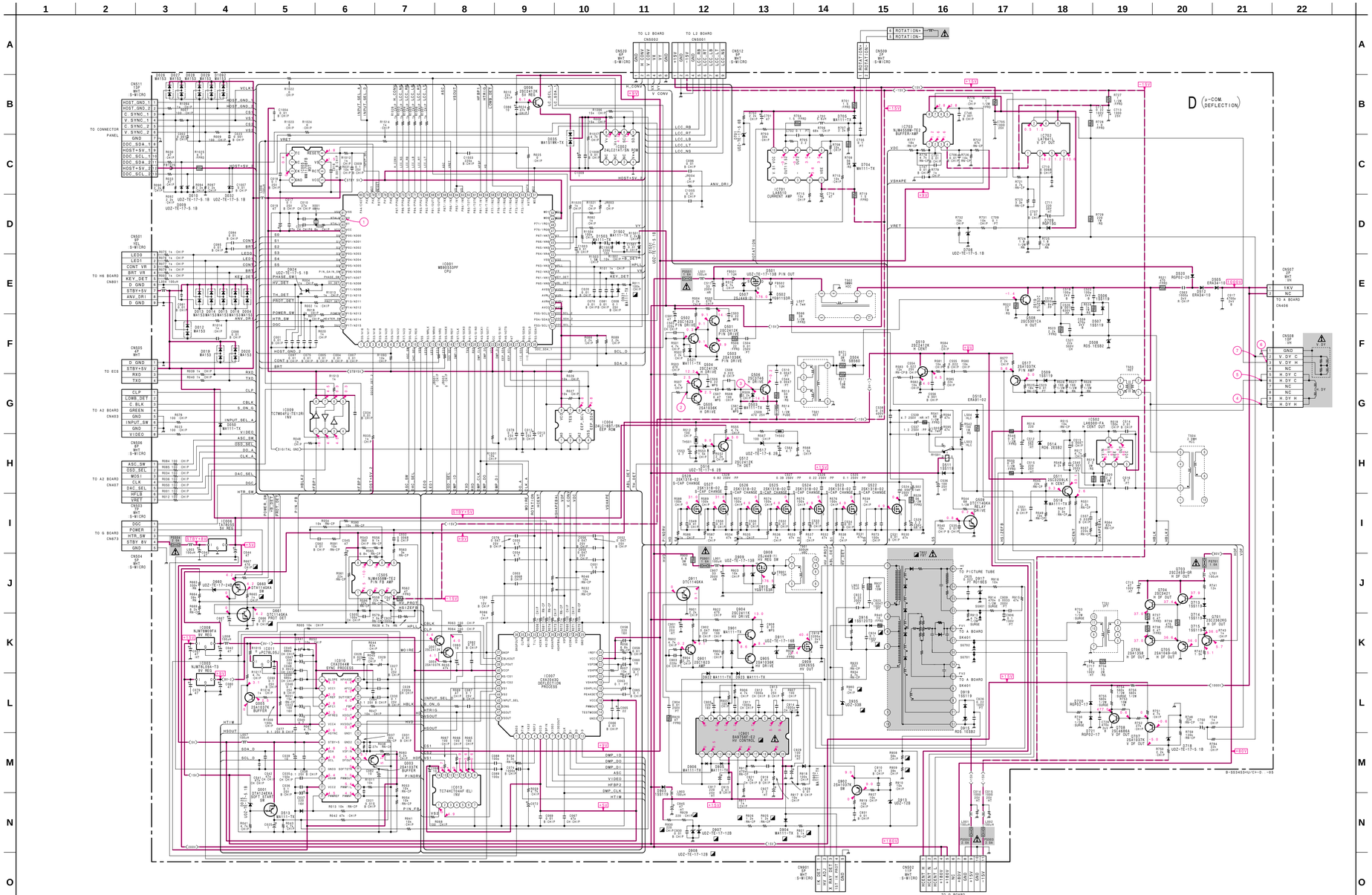
✻: **Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-9)**

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

— D BOARD (Component Side) —



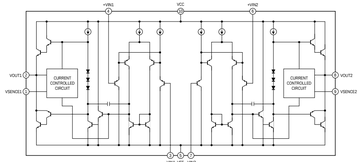
(1) Schematic Diagram of D Board

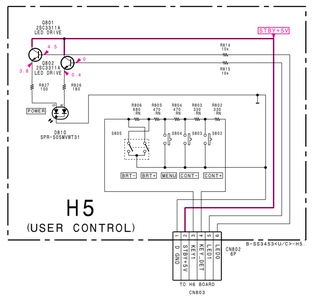


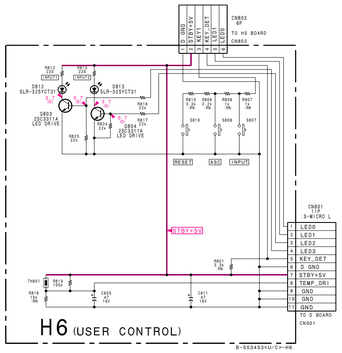
• D BOARD WAVEFORMS

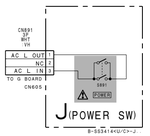
① 5.0 Vp-p (4MHz)	② 4.3 Vp-p (H)	③ 2.0 Vp-p (H)	④ 600 Vp-p (H)
⑤ 120 Vp-p (H)	⑥ 50.0 Vp-p (V)	⑦ 2.0 Vp-p (V)	

• D BOARD IC701 LA6510

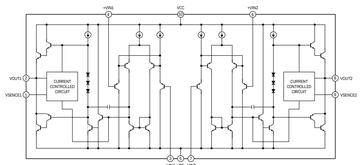


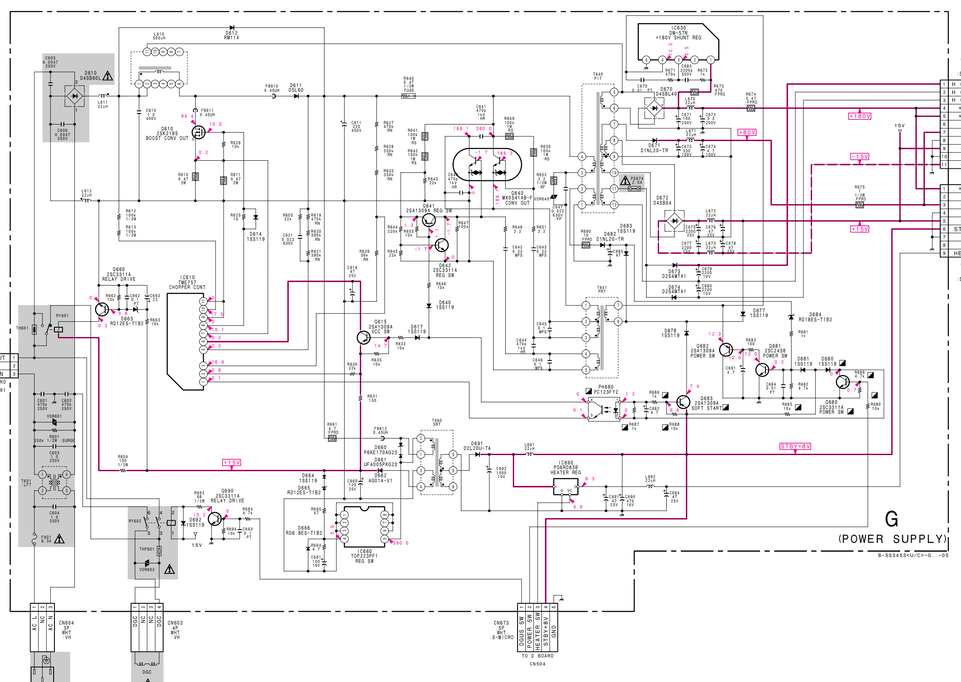


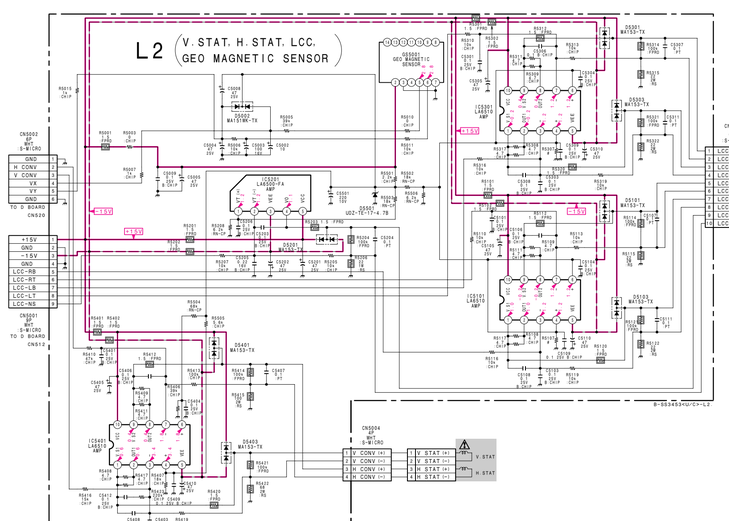




• L2 BOARD IC5101, 5301, 5401 LA6510







Schematic diagram
← D board

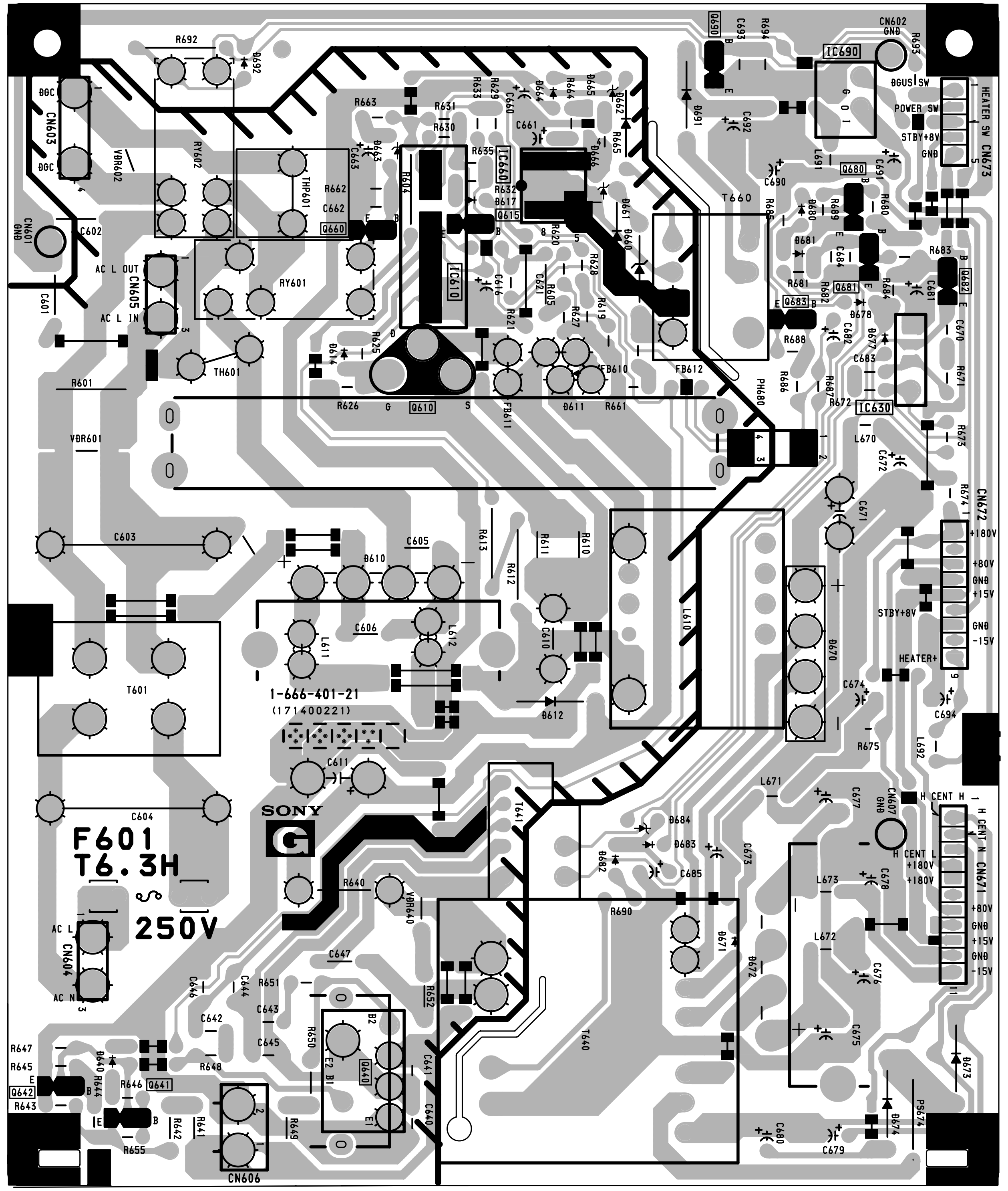
Schematic diagrams
G H5 H6 H
J L2 boards →

G [POWER SUPPLY]

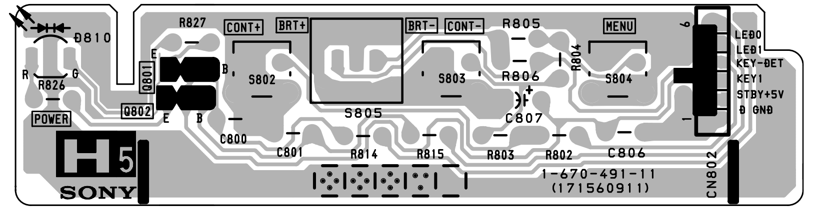
H5 [USER CONTROL] **H6** [USER CONTROL] **J** [POWER SW]

L2 [V.STAT, H.STAT, LLC, GEO MAGNETIC SENSOR]

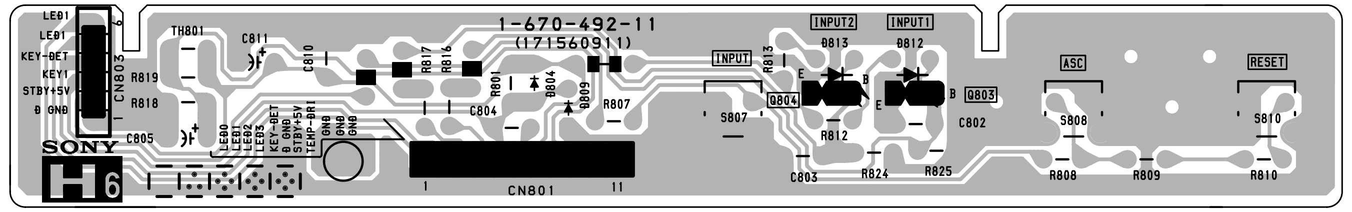
— G BOARD —



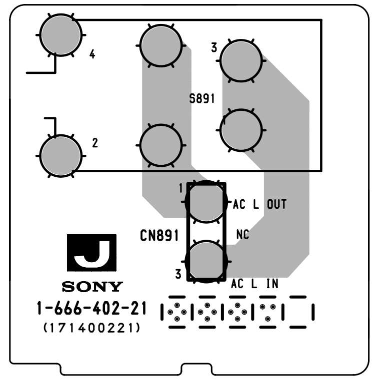
— H5 BOARD —



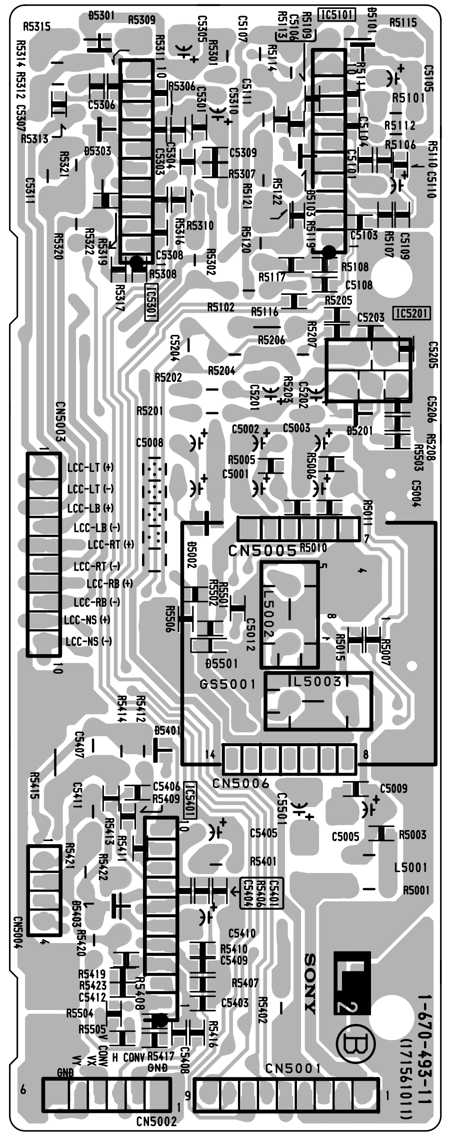
— H6 BOARD —



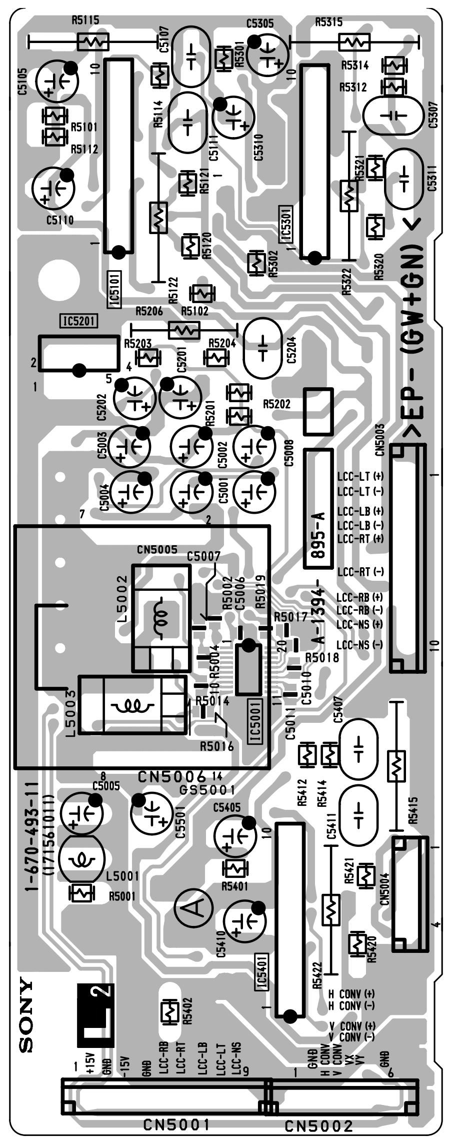
— J BOARD —



— L2 BOARD (Conductor Side) —



— L2 BOARD (Component Side) —



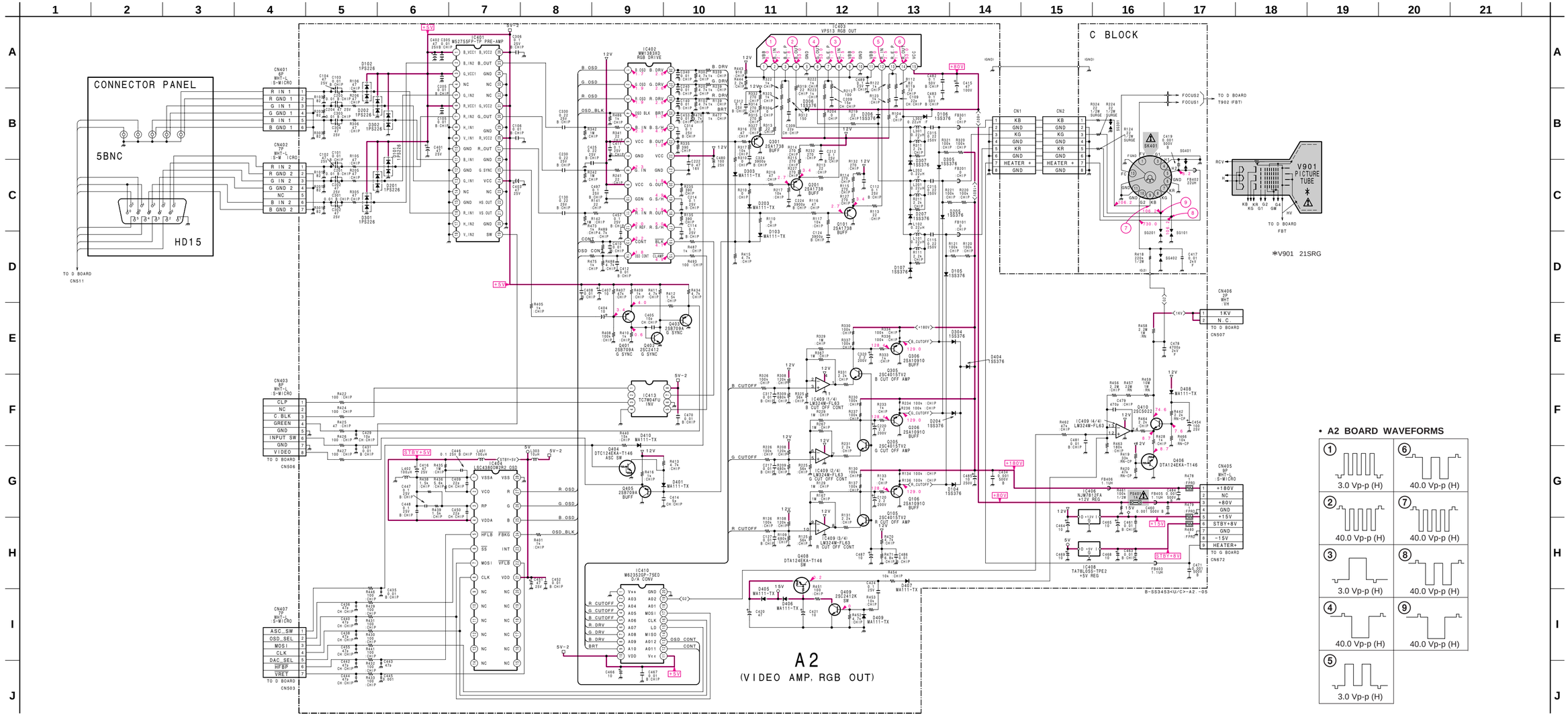
L2 BOARD
Terminal name of semiconductors in silk screen printed circuit (✱)

Ref.	✱
D5501	③
D5101, D5103, D5201, D5301, D5303, D5401, D5403	⑥
D5002	⑧

✱: **Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-9)**

Schematic diagram
A2 board ➡

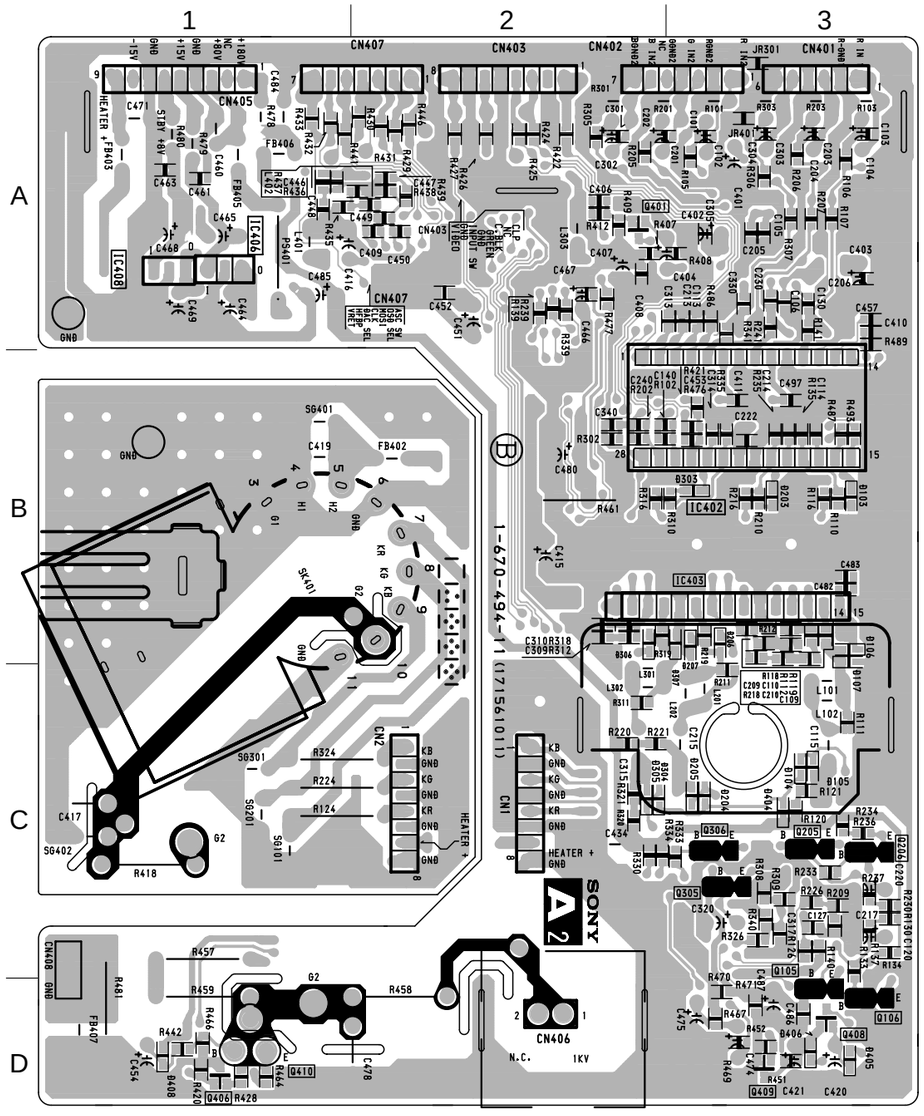
(3) Schematic Diagram of A2 Board



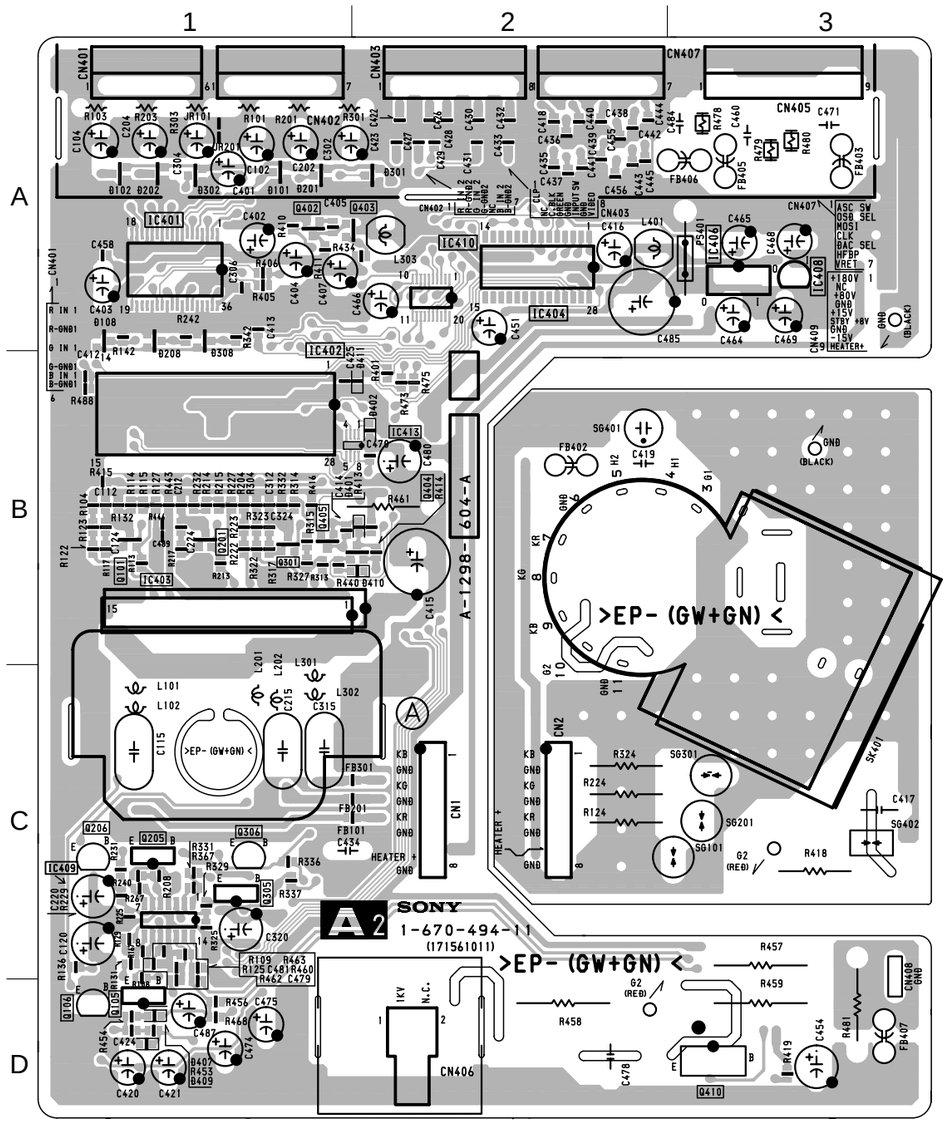
• A2 BOARD WAVEFORMS

A2 VIDEO AMP RGB OUT

— A2 BOARD (Conductor Side) —



— A2 BOARD (Component Side) —



• A2 BOARD SEMICONDUCTOR LOCATION

IC

	(Conductor Side)	(Component Side)
IC401		A–1
IC402	B–3	B–1
IC403	B–3	B–1
IC404		A–2
IC406	A–1	A–3
IC408	A–1	A–3
IC409		C–1
IC410		A–2
IC413		B-1

TRANSISTOR

	(Conductor Side)	(Component Side)	✻
Q101		B–1	②
Q105	D–3	D–1	–
Q106	D–3	D–1	–
Q201		B–1	②
Q205	C–3	C–1	–
Q206	C–3	C–1	–
Q301		B–1	②
Q305	C–3	C–1	–
Q306	C–3	C–1	–
Q401	A–2		①
Q402		A–1	②
Q403		A–1	②
Q404		B–1	②
Q405		B–1	②
Q406	D–1		①
Q408	D–3		①
Q409	D–3		①
Q410	D–1	D–3	–

DIODE

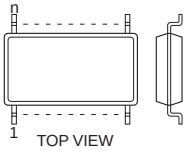
	(Conductor Side)	(Component Side)	✻
D101		A–1	⑦
D102		A–1	⑦
D103	B–3		③
D104	C–3		③
D105	C–3		③
D106	B–3		③
D107	B–3		③
D201		A–1	⑦
D202		A–1	⑦
D203	B–3		③
D204	C–3		③
D205	C–3		③
D206	B–3		③
D207	B–3		③
D301		A–2	⑦
D302		A–1	⑦
D303	B–3		③
D304	C–2		③
D305	C–2		③
D306	B–2		③
D307	B–3		③
D401		B–1	③
D404	C–3		③
D405	D–3		③
D406	D–3		③
D407		D–1	③
D408	D–1		③
D409		D–1	③
D410		B–1	③

✻: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-9)

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

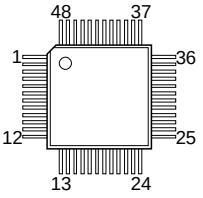
5-5. SEMICONDUCTORS

BA9756FS-E2
M62352GP-75E
M62352GP-75ED



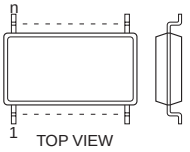
20 pin SOP

CXA2043Q



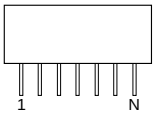
TOP VIEW

CXA2044M-T6
LSC4380DW2R2
LSC4380DW2AR2



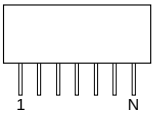
28 pin SOP

DM57N



MARKING SIDE VIEW
• pin N = 5
• Mt (one side, both side)

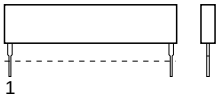
TME757



MARKING SIDE VIEW
• pin N = 11
• Mt (one side, both side)

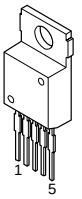
VPS13

MARKING SIDE VIEW

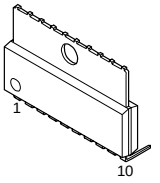


15 pin SIP

LA6500-FA

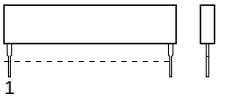


LA6510



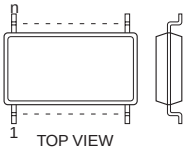
LA7841L

MARKING SIDE VIEW



7 pin SIP

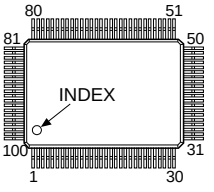
LM324M
LM324M-FL63
TC74HCT04AF



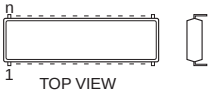
TOP VIEW

14 pin SOP

MB90553PF-G-124-BND



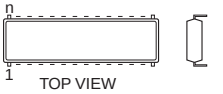
MM1170BFB
TOP223PFI



TOP VIEW

8 pin DIP

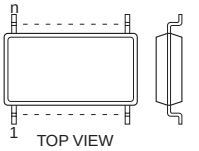
MM1383XD



TOP VIEW

28 pin DIP

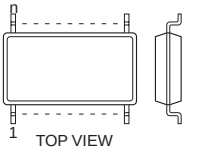
M52755FP-TP



TOP VIEW

36 pin SOP

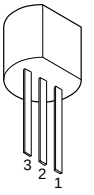
NJM4558M
µPC4558G2
24LC16BT/SN
24LC21AT/SN



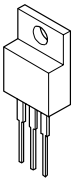
TOP VIEW

8 pin SOP

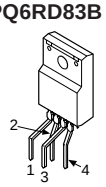
NJM78L05A
NJM78L09A-T3
TA78L05S
TA78L09S
µPC78L05J-TP



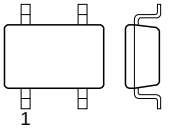
NJM78M09FA
NJM7812FA
TA7805S



PQ6RD83B

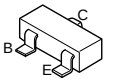


TC7W04FU
TC7W04FU (TE12R)

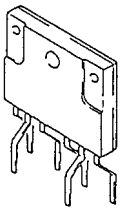


5 pin CHIP

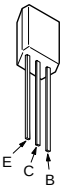
DTA114GKAT146
DTA124EKA-T146
DTC114GKA
DTC114GKAT146
DTC124EK
DTC124EKA-T146
2SA1036K-Q
2SA1036K-T-146-Q
2SA1037K-T-146-QR
2SA1462-Y33
2SA1738-TX
2SB709A-QRS-TX
2SC1623-L5L6
2SC2411K-CQ
2SC2411K-T-146-CQ
2SC2412K-T-146-QR



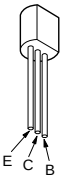
MX0541AB-F



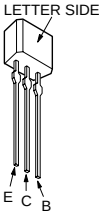
2SA1049-GR
2SC2458-YGR
2SC2459-GR



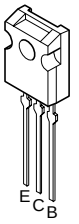
2SA1091-O
2SC2362K-G



2SA1175-HFE
2SA1309A-QRSTA
2SC2784
2SC2785-HFE
2SC3311A-QRSTA

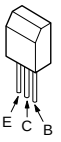


2SA1358-Y
2SC3421-Y

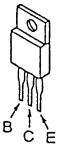


2SC2362KG-AA

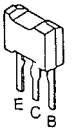
2SC3209LK
2SC3209LK-TP



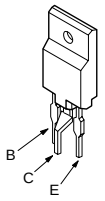
2SC3746
2SC4686A (LBSONY)
2SJ449
2SJ449 (1)
2SJ449 (2)



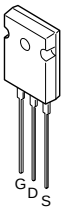
2SC4015TV2



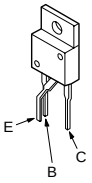
2SC5301-CA



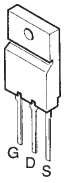
2SK1318-02
2SK2098-01MR-F119



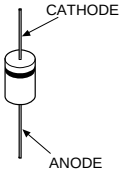
2SK2195F04



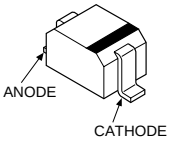
2SK2655-01R-F183R
2SK2675



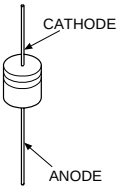
ERA91-02
S2LA20F



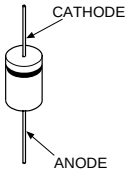
DTZ-TT11-16B
DTZ13B
DTZ24B
DTZ33B
DTZ4.7C
DTZ5.1B
MA111-TX
RD12SB2
RD5.6SB
UDZ-TE-17-12B
UDZ-TE-17-13B
UDZ-TE-17-16B
UDZ-TE-17-24B
UDZ-TE-17-33B
UDZ-TE-17-4.7B
UDZ-TE-17-5.1B
UDZ-TE-17-5.6B
UDZ-TE-17-6.2B



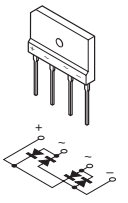
AG01A-V1
D1NL20-TR
GMA01-BT
RD12ES-B2
RD16ES-B2
RD16ES-B3
RD18ES-B2
RD5.1ES-B2
RD6.2ESB2
RD6.8ESB2
1SS119-25TD
1SS119-25
1SS120TD



D2S4MF
D2S4MTA1



D4SBS4
D4SBS4-F
D4SBL40
D4SB60L



D2L20U
D2L20U-TA
EGP20G
ERA34-10TP1
P6KE170AG23
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RGP02-17PKG23
RGP02-20EG23
RGP02-20EL-6394
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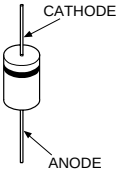
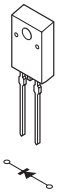
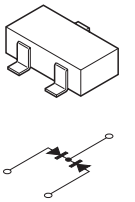
UF4005PKG23



D5L60



MA151WK-TX
1SS184



MA153-TX
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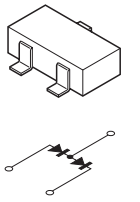
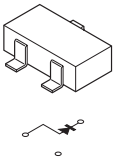
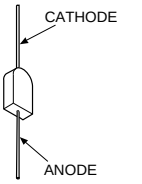


RD6.2M-B1

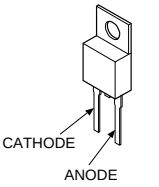


RM11A
RM11C

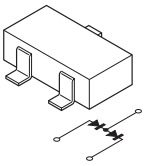


SB560

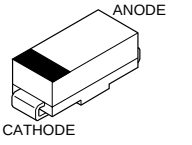
FMQ-G5FMS
YG911S3R
5TUZ52C



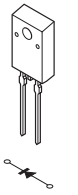
1PS226-115



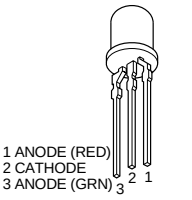
1SS376TE-17



SLR-325YCT31



SPR-505MVWT31



SECTION 6
EXPLODED VIEWS

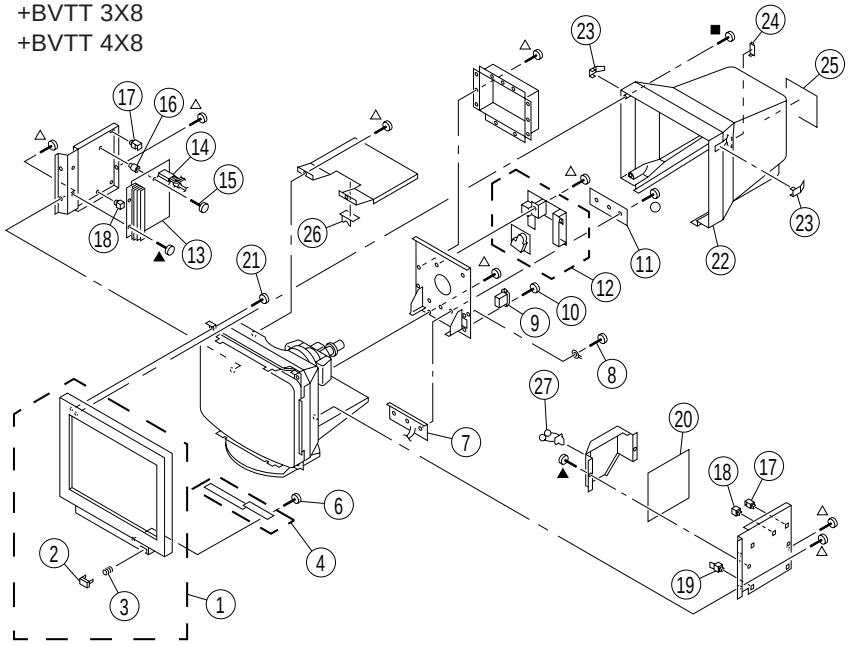
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS

▲ 7-685-647-79 +BVTP 3X10
■ 7-685-663-71 +BVTP 4X16
○ 7-685-872-09 +BVTT 3X8
△ 7-685-881-09 +BVTT 4X8



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4035-847-3	BEZEL ASSY [U/C/AEP for Japan-made set]	2,3
1	X-4036-008-2	BEZEL ASSY [U/C for USA-made set]	2,3
1	X-4200-450-1	BEZEL ASSY [UK/AEP for UK-made set]	2,3
2	4-065-356-02	BUTTON, POWER [U/C/AEP for Japan-made set]	
2	4-066-697-01	BUTTON, POWER [U/C for USA-made set]	
2	4-066-700-11	BUTTON, POWER [UK/AEP for UK-made set]	
3	4-061-932-01	SPRING, COMPRESSION [except U/C for USA-made set]	
3	4-061-932-11	SPRING, COMPRESSION [U/C for USA-made set]	
4	* 8-933-332-00	H5 AND H6 BOARDS, COMPLETE	
6	4-029-432-01	SCREW (3X12), (+) BVWHTP	
7	1-694-461-11	TERMINAL BOARD ASSY, I/O	
8	4-389-025-01	SCREW (M4) (EXT TOOTH WASHER)	
9	⚠ 1-251-382-12	INLET, AC 3P (WITH NOISE FILTER)	
10	4-052-345-01	SCREW, (3X8) (+K), TAPPING	
11	4-060-368-12	SHEET, CONNECTOR	
12	* 8-933-334-00	A2 BOARD, COMPLETE	
13	* 8-933-330-00	D BOARD, COMPLETE	14
14	⚠ X-4035-170-1	TRANSFORMER ASSY, FLYBACK (NX-4142//J1D4)	
15	4-062-115-01	SCREW +P 3.5X20 TYPE2	
16	* 4-060-359-01	HOLDER, PRINTED CIRCUIT BOARD	
17	* 3-701-903-11	HOLDER, PRINTED CIRCUIT BOARD	
18	* 4-382-848-01	HOLDER, PRINTED CIRCUIT BOARD	
19	* 3-703-141-00	HOLDER, PRINTED CIRCUIT BOARD	
20	* 8-933-333-00	G BOARD, COMPLETE	
21	4-365-808-01	SCREW (5), TAPPING [except UK/AEP for UK-made set]	
21	4-203-648-01	SCREW (5), SELF TAPPING [UK/AEP for UK-made set]	
22	4-061-604-01	CABINET [U/C/AEP for Japan-made set]	
22	4-064-123-01	CABINET [U/C for USA-made set]	
22	4-204-317-31	CABINET [UK/AEP for UK-made set]	
23	4-061-605-01	COVER, SCREW [U/C/AEP for Japan-made set]	
23	4-064-132-01	COVER, SCREW [U/C for USA-made set]	
23	4-204-327-31	COVER, SCREW [UK/AEP for UK-made set]	
24	4-060-358-21	COVER, ECS [U/C/AEP for Japan-made set]	
24	4-061-155-11	COVER, ECS [U/C for USA-made set]	
24	4-204-328-31	COVER, ECS [UK/AEP for UK-made set]	
25	* 4-065-365-02	LABEL, INFORMATION [U/C for Japan-made set]	
25	* 4-065-365-11	LABEL, INFORMATION [AEP for Japan-made set]	
25	* 4-066-762-01	LABEL, INFORMATION [U/C for USA-made set]	
25	* 4-066-763-01	LABEL, INFORMATION [UK/AEP for UK-made set]	
25	4-070-100-01	LABEL, INFORMATION [520GST9 AEP for Japan-made set]	
25	* 4-204-843-01	LABEL, INFORMATION [520GST9 AEP for UK-made set]	
26	* 4-063-711-01	SUPPORT, HV CABLE	
27	2-132-434-01	CLIP, WIRE	

6-2. PICTURE TUBE

■ 7-685-663-71 +BVTP 4X16
△ 7-685-881-09 +BVTT 4X8
◇ 7-685-883-01 +BVTT 4X12

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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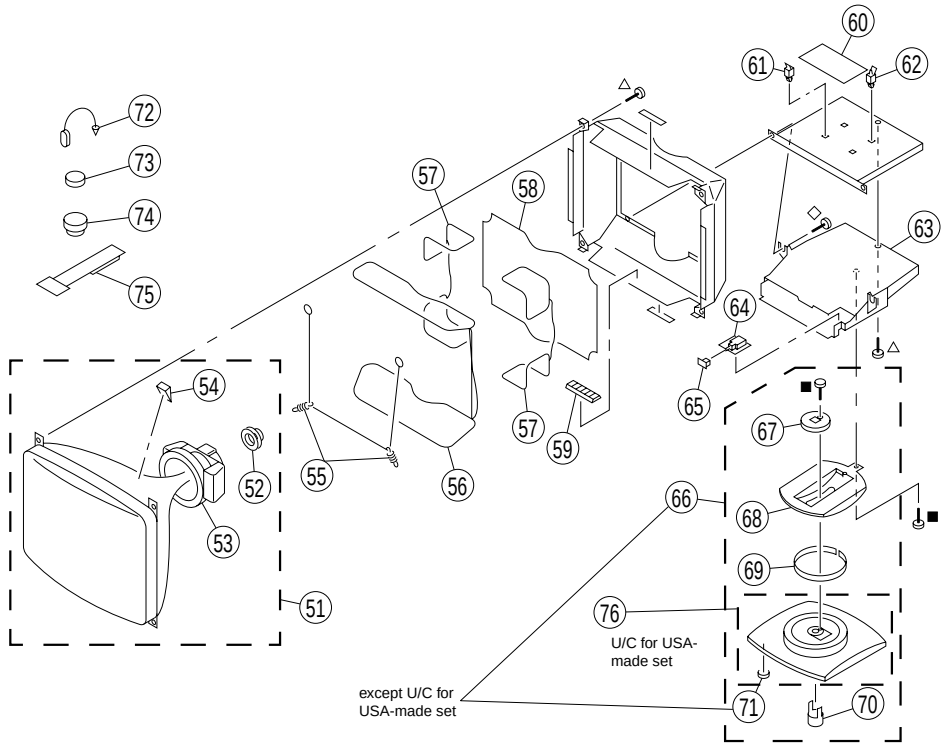

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	⚠ 8-738-806-61	ITC ASSY (21SRG-R5)	52-54
52	⚠ 1-452-932-21	NECK ASSEMBLY (NA-2916)	
53	⚠ 1-451-479-11	DEFRECTION YOKE (Y21SRL2-T)	[U/C/AEP for Japan-made set]
53	⚠ 8-451-493-41	DEFRECTION YOKE (Y21SRL-M4)	[UK/AEP for UK-made set]
53	⚠ 8-451-493-71	DEFRECTION YOKE (Y21SRL-X)	[U/C for USA-made set]
54	4-050-492-01	SPACER, DY	[except U/C for USA-made set]
54	4-040-897-01	SPACER, DY	[U/C for USA-made set]
55	* 4-047-316-01	SPRING, EXTENSION	[except U/C for USA-made set]
55	* 4-061-573-01	SPRING, TENSION	[U/C for USA-made set]
56	⚠ 1-416-437-31	COIL, DEMAGNETIC	
57	⚠ 1-416-140-12	COIL, LANDING CORRECTION	
58	⚠ 1-416-438-31	COIL, LANDING CORRECTION	
59	4-062-670-01	SPACER, PICTURE TUBE	
60	* 8-933-336-00	L2 BOARD, COMPLETE	
61	* 4-321-929-00	HOLDER, PRINTED CIRCUIT BOARD	
62	* 3-703-141-00	HOLDER, PRINTED CIRCUIT BOARD	
63	4-061-603-01	COVER, BOTTOM	[U/C/AEP for Japan-made set]
63	4-064-124-01	COVER, BOTTOM	[U/C for USA-made set]
63	4-204-318-31	COVER, BOTTOM	[UK/AEP for UK-made set]
64	* 8-933-335-00	J BOARD, COMPLETE	
65	* 4-394-972-21	CAP, POWER	
66	X-4035-224-1	STAND ASSY	[U/C/AEP for Japan-made set] 67-71
66	X-4036-734-1	STAND ASSY	[520GST9 AEP for Japan-made set] 67-71
66	X-4200-492-1	STAND ASSY	[UK/AEP for UK-made set] 67-71
67	4-061-396-01	STOPPER (A)	[U/C/AEP for Japan-made set]
67	4-064-133-01	STOPPER (A)	[U/C for USA-made set]
67	4-204-326-01	STOPPER (A)	[UK/AEP for UK-made set]
68	4-061-938-01	SLIDER	[U/C/AEP for Japan-made set]
68	4-064-125-01	SLIDER	[U/C for USA-made set]
68	4-070-626-01	SLIDER	[520GST9 AEP for Japan-made set]
68	* 4-204-319-31	SLIDER	[UK/AEP for UK-made set]
69	4-063-397-01	RING, TILT SWIVEL	[U/C/AEP for Japan-made set]
69	4-065-407-01	RING, TILT SWIVEL	[U/C for USA-made set]
69	* 4-204-376-01	RING, TILT SWIVEL	[UK/AEP for UK-made set]
70	4-041-621-01	STOPPER (B)	[except U/C for USA-made set]
70	4-041-621-21	STOPPER (B)	[U/C for USA-made set]
71	4-047-474-01	FOOT, RUBBER	[except U/C for USA-made set]
72	4-308-870-00	CLIP, LEAD WIRE	
73	1-452-032-00	MAGNET, DISK; 10mmϕ	
74	1-452-094-00	MAGNET, ROTATABLE DISK; 15mmϕ	
75	4-051-736-21	PIECE A (90), CONV. CORRECT	
76	X-4035-515-1	STAND ASSY	[U/C for USA-made set]

6-3. PACKING MATERIALS

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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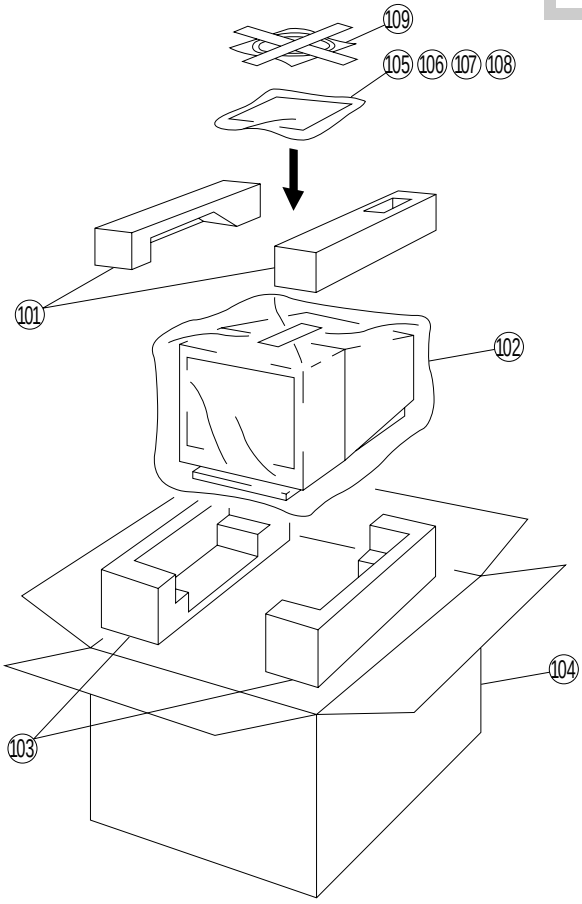

REF.NO.	PART NO.	DESCRIPTION	REMARK
101	* 4-061-809-11	CUSHION (UPPER) (ASSY)	[U/C/AEP for Japan-made set]
101	* 4-064-179-01	CUSHION (UPPER) (ASSY)	[U/C for USA-made set]
101	* 4-065-348-01	CUSHION (UPPER) (ASSY)	[UK/AEP for UK-made set]
102	* 4-041-927-31	BAG, POLYETHYLENE	[U/C/AEP for Japan-made set]
102	* 4-047-293-01	BAG, POLYETHYLENE	[U/C for USA-made set]
102	* 4-060-490-11	BAG, POLYETHYLENE	[UK/AEP for UK-made set]
103	* 4-061-810-11	CUSHION (LOWER) (ASSY)	[U/C/AEP for Japan-made set]
103	* 4-064-180-01	CUSHION (LOWER) (ASSY)	[U/C for USA-made set]
103	* 4-065-349-01	CUSHION (LOWER) (ASSY)	[UK/AEP for UK-made set]
104	* 4-067-048-01	INDIVIDUAL CARTON	[U/C for USA-made set]
104	* 4-067-049-01	INDIVIDUAL CARTON	[UK/AEP for UK-made set]
104	* 4-070-187-01	INDIVIDUAL CARTON	[520GST9 AEP for Japan-made set]
104	* 4-204-845-01	INDIVIDUAL CARTON	[520GST9 AEP for UK-made set]
104	* 4-066-065-01	INDIVIDUAL CARTON	[U/C for Japan-made set]
104	* 4-066-564-01	INDIVIDUAL CARTON	[AEP for Japan-made set]
105	1-759-641-14	DISK, INFORMATION (WINDOWS)	[except U/C for USA-made set]
105	1-759-641-21	DISK, INFORMATION (WINDOWS)	[U/C for USA-made set]
106	⚠ 1-765-718-11	CORD SET, POWER [U/C]	
106	⚠ 1-765-719-11	CORD SET, POWER [AEP]	
106	⚠ 1-775-706-11	CORD SET, POWER [UK]	
107	1-785-429-11	ADAPTOR, CONVERSION (for Mac)	
108	3-864-132-12	MANUAL, INSTRUCTION (E, F, S, C2)	[U/C for Japan-made set]
108	3-864-132-21	MANUAL, INSTRUCTION (E, F, D, ES, I)	[AEP for Japan-made set]
108	3-864-132-31	MANUAL, INSTRUCTION (E, F, S, C2)	[U/C for USA-made set]
108	3-864-132-41	MANUAL, INSTRUCTION (E, F, D, ES, I)	[UK/AEP for UK-made set]
108	3-864-132-51	MANUAL, INSTRUCTION (R, PO, SL, HU, C2)	[520GST AEP for UK-made set]
108	3-864-132-61	MANUAL, INSTRUCTION (E, F, G, S, I)	[520GST9 AEP for Japan-made set]
108	3-864-132-71	MANUAL, INSTRUCTION(E, F, G, S, I)	[520GST9 AEP for UK-made set]
108	3-864-132-81	MANUAL, INSTRUCTION (R, PO, SL, HU, C2)	[520GST9 AEP for UK-made set]
109	1-790-901-11	CABLE ASSY (15P DSUBX2 CONNECTET)	

MEMO

SECTION 7
ELECTRICAL PARTS LIST

A2

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*8-933-334-00A2	BOARD, COMPLETE			
		**********			
	7-682-950-01	SCREW +PSW 3X12 (IC403)			
		<CAPACITOR>			
C101	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C102	1-104-664-11	ELECT	47µF	20%	25V
C103	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C104	1-104-664-11	ELECT	47µF	20%	25V
C105	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C106	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C109	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C112	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C114	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C115	1-104-514-11	FILM	0.22µF	10%	250V
C120	1-107-949-11	ELECT	2.2µF	20%	200V
C124	1-163-016-00	CERAMIC CHIP	0.0039µF	10%	50V
C127	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C130	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
C140	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C201	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C202	1-104-664-11	ELECT	47µF	20%	25V
C203	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C204	1-104-664-11	ELECT	47µF	20%	25V
C205	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C209	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C212	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C214	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C215	1-104-514-11	FILM	0.22µF	10%	250V
C217	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C220	1-107-949-11	ELECT	2.2µF	20%	200V
C222	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C224	1-163-016-00	CERAMIC CHIP	0.0039µF	10%	50V
C230	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
C240	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C301	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C302	1-104-664-11	ELECT	47µF	20%	25V
C303	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C304	1-104-664-11	ELECT	47µF	20%	25V
C305	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C306	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C309	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C312	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C314	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C315	1-104-514-11	FILM	0.22µF	10%	250V
C317	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C320	1-107-949-11	ELECT	2.2µF	20%	200V
C324	1-163-016-00	CERAMIC CHIP	0.0039µF	10%	50V
C330	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
C340	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C401	1-104-664-11	ELECT	47µF	20%	25V
C402	1-104-664-11	ELECT	47µF	20%	25V
C403	1-104-664-11	ELECT	47µF	20%	25V
C404	1-126-964-11	ELECT	10µF	20%	50V
C405	1-163-227-11	CERAMIC CHIP	10pF	0.5pF	50V
C407	1-126-964-11	ELECT	10µF	20%	50V
C408	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C409	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C410	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C411	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C412	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C414	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C415	1-128-562-11	ELECT	47µF	20%	100V
C416	1-104-664-11	ELECT	47µF	20%	25V
C417	1-115-349-51	CERAMIC	0.01µF		2KV
C419	1-162-318-11	CERAMIC	0.001µF	10%	500V
C420	1-126-967-11	ELECT	47µF	20%	50V
C421	1-126-964-11	ELECT	10µF	20%	50V
C424	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C425	1-115-340-11	CERAMIC CHIP	0.22µF	10%	25V
C429	1-163-227-11	CERAMIC CHIP	10pF	0.5pF	50V
C431	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C434	1-162-318-11	CERAMIC	0.001µF	10%	500V
C435	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C436	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C438	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C440	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C442	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C443	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C444	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C445	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C446	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C447	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V

A2

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
C448	1-164-004-11	CERAMIC CHIP 0.1µF 10% 25V	
C450	1-163-235-11	CERAMIC CHIP 22pF 5% 50V	
C451	1-104-664-11	ELECT 47µF 20% 25V	
C452	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C453	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C454	1-104-665-11	ELECT 100µF 20% 25V	
C455	1-163-243-11	CERAMIC CHIP 47pF 5% 50V	
C457	1-164-004-11	CERAMIC CHIP 0.1µF 10% 25V	
C460	1-162-318-11	CERAMIC 0.001µF 10% 500V	
C461	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C463	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C464	1-107-906-11	ELECT 10µF 20% 50V	
C465	1-107-906-11	ELECT 10µF 20% 50V	
C466	1-126-964-11	ELECT 10µF 20% 50V	
C467	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C468	1-126-964-11	ELECT 10µF 20% 50V	
C469	1-126-964-11	ELECT 10µF 20% 50V	
C470	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C471	1-162-318-11	CERAMIC 0.001µF 10% 500V	
C478	1-115-350-51	CERAMIC 0.0047µF 2KV	
C479	1-163-133-00	CERAMIC CHIP 470pF 5% 50V	
C480	1-104-665-11	ELECT 100µF 20% 25V	
C481	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C482	1-115-339-11	CERAMIC CHIP 0.1µF 10% 50V	
C483	1-115-339-11	CERAMIC CHIP 0.1µF 10% 50V	
C484	1-162-318-11	CERAMIC 0.001µF 10% 500V	
C485	1-107-652-11	ELECT 10µF 20% 250V	
C486	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C487	1-126-964-11	ELECT 10µF 20% 50V	
C489	1-164-004-11	CERAMIC CHIP 0.1µF 10% 25V	
C497	1-164-004-11	CERAMIC CHIP 0.1µF 10% 25V	
		<CONNECTOR>	
CN401*	1-564-521-11	PLUG, CONNECTOR 6P	
CN402*	1-564-522-11	PLUG, CONNECTOR 7P	
CN403*	1-564-523-11	PLUG, CONNECTOR 8P	
CN405*	1-564-524-11	PLUG, CONNECTOR 9P	
CN406*	1-766-179-11	PIN, CONNECTOR (PC BOARD) 2P	
CN407*	1-564-522-11	PLUG, CONNECTOR 7P	
		<DIODE>	
D101	8-719-062-51	DIODE 1PS226-115	
D102	8-719-062-51	DIODE 1PS226-115	
D103	8-719-404-50	DIODE MA111-TX	
D104	8-719-052-12	DIODE 1SS376TE-17	
D105	8-719-052-12	DIODE 1SS376TE-17	
D106	8-719-052-12	DIODE 1SS376TE-17	
D107	8-719-052-12	DIODE 1SS376TE-17	
D201	8-719-062-51	DIODE 1PS226-115	
D202	8-719-062-51	DIODE 1PS226-115	
D203	8-719-404-50	DIODE MA111-TX	
D204	8-719-052-12	DIODE 1SS376TE-17	
D205	8-719-052-12	DIODE 1SS376TE-17	
D206	8-719-052-12	DIODE 1SS376TE-17	
D207	8-719-052-12	DIODE 1SS376TE-17	
D301	8-719-062-51	DIODE 1PS226-115	
D302	8-719-062-51	DIODE 1PS226-115	
D303	8-719-404-50	DIODE MA111-TX	
D304	8-719-052-12	DIODE 1SS376TE-17	
D305	8-719-052-12	DIODE 1SS376TE-17	
D306	8-719-052-12	DIODE 1SS376TE-17	
D307	8-719-052-12	DIODE 1SS376TE-17	
D401	8-719-404-50	DIODE MA111-TX	
D404	8-719-052-12	DIODE 1SS376TE-17	
D405	8-719-404-50	DIODE MA111-TX	
D406	8-719-404-50	DIODE MA111-TX	
D407	8-719-404-50	DIODE MA111-TX	
D408	8-719-404-50	DIODE MA111-TX	
D409	8-719-404-50	DIODE MA111-TX	
D410	8-719-404-50	DIODE MA111-TX	
		<FERRITE BEAD>	
FB101	1-216-295-91	SHORT 0	
FB201	1-216-295-91	SHORT 0	
FB301	1-216-295-91	SHORT 0	
FB402	1-412-529-11	INDUCTOR 22µH	
FB403	1-412-911-31	FERRITE 1.1µH	
FB405	1-412-911-31	FERRITE 1.1µH	
FB406	1-412-911-31	FERRITE 1.1µH	
		<IC>	
IC401	8-759-522-86	IC M52755FP-TP	
IC402	8-759-542-30	IC MM1383XD	
IC403	8-749-013-90	IC VPS13	
IC404	8-759-566-26	IC LSC4380DW2AR2	
IC406	8-759-701-79	IC NJM7812FA	
IC408	8-759-239-14	IC TA78L05S	
IC409	8-759-502-82	IC LM324M	
IC410	8-759-635-27	IC M62352GP-75E	
IC413	8-759-082-57	IC TC7W04FU	
		<COIL>	
L101	1-414-137-31	INDUCTOR 0.22µH	
L102	1-414-137-31	INDUCTOR 0.22µH	
L201	1-414-137-31	INDUCTOR 0.22µH	
L202	1-414-137-31	INDUCTOR 0.22µH	
L301	1-414-137-31	INDUCTOR 0.22µH	
L302	1-414-137-31	INDUCTOR 0.22µH	
L303	1-408-603-31	INDUCTOR 10µH	
L401	1-408-615-31	INDUCTOR 100µH	
L402	1-412-963-11	INDUCTOR 100µH	
		<IC LINK>	
PS401⚠	1-533-590-31	LINK, IC (1A/90V AC, 60V DC)	

A2

REF.NO.	PART NO.	DESCRIPTION			REMARK
	<TRANSISTOR>				
Q101	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q105	8-729-041-66	TRANSISTOR 2SC4015TV2			
Q106	8-729-200-17	TRANSISTOR 2SA1091-O			
Q201	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q205	8-729-041-66	TRANSISTOR 2SC4015TV2			
Q206	8-729-200-17	TRANSISTOR 2SA1091-O			
Q301	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q305	8-729-041-66	TRANSISTOR 2SC4015TV2			
Q306	8-729-200-17	TRANSISTOR 2SA1091-O			
Q401	8-729-216-22	TRANSISTOR 2SA1162-G			
Q402	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q403	8-729-216-22	TRANSISTOR 2SA1162-G			
Q404	8-729-901-00	TRANSISTOR DTC124EK			
Q405	8-729-216-22	TRANSISTOR 2SA1162-G			
Q406	8-729-027-31	TRANSISTOR DTA124EKA-T146			
Q408	8-729-027-31	TRANSISTOR DTA124EKA-T146			
Q409	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q410	8-729-032-61	TRANSISTOR 2SC5022-02			
	<RESISTOR>				
R101	1-215-395-00	METAL	82	1%	1/4W
R102	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R103	1-215-395-00	METAL	82	1%	1/4W
R104	1-216-295-91	SHORT	0		
R105	1-216-017-91	RES,CHIP	47	5%	1/10W
R106	1-216-017-91	RES,CHIP	47	5%	1/10W
R108	1-216-099-00	RES,CHIP	120K	5%	1/10W
R109	1-216-117-00	RES,CHIP	680K	5%	1/10W
R110	1-216-295-91	SHORT	0		
R111	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R112	1-216-625-11	METAL CHIP	82	0.50%	1/10W
R113	1-216-009-91	RES,CHIP	22	5%	1/10W
R114	1-216-035-00	RES,CHIP	270	5%	1/10W
R115	1-216-035-00	RES,CHIP	270	5%	1/10W
R116	1-216-017-91	RES,CHIP	47	5%	1/10W
R117	1-216-073-00	RES,CHIP	10K	5%	1/10W
R119	1-216-009-91	RES,CHIP	22	5%	1/10W
R120	1-216-097-91	RES,CHIP	100K	5%	1/10W
R121	1-216-097-91	RES,CHIP	100K	5%	1/10W
R122	1-216-049-91	RES,CHIP	1K	5%	1/10W
R123	1-216-049-91	RES,CHIP	1K	5%	1/10W
R124	1-219-497-11	CARBON	22	5%	1/2W
R125	1-216-091-00	RES,CHIP	56K	5%	1/10W
R126	1-216-097-91	RES,CHIP	100K	5%	1/10W
R127	1-216-035-00	RES,CHIP	270	5%	1/10W
R129	1-216-121-91	RES,CHIP	1M	5%	1/10W
R130	1-216-097-91	RES,CHIP	100K	5%	1/10W
R131	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R132	1-216-035-00	RES,CHIP	270	5%	1/10W
R133	1-216-049-91	RES,CHIP	1K	5%	1/10W
R134	1-216-097-91	RES,CHIP	100K	5%	1/10W
R135	1-216-039-00	RES,CHIP	390	5%	1/10W
R136	1-216-097-91	RES,CHIP	100K	5%	1/10W
R137	1-216-097-91	RES,CHIP	100K	5%	1/10W
R139	1-216-049-91	RES,CHIP	1K	5%	1/10W
R141	1-216-009-91	RES,CHIP	22	5%	1/10W
R142	1-216-121-91	RES,CHIP	1M	5%	1/10W
R167	1-216-121-91	RES,CHIP	1M	5%	1/10W
R201	1-215-395-00	METAL	82	1%	1/4W
R202	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R203	1-215-395-00	METAL	82	1%	1/4W
R204	1-216-295-91	SHORT	0		
R205	1-216-017-91	RES,CHIP	47	5%	1/10W
R206	1-216-017-91	RES,CHIP	47	5%	1/10W
R208	1-216-099-00	RES,CHIP	120K	5%	1/10W
R209	1-216-117-00	RES,CHIP	680K	5%	1/10W
R210	1-216-295-91	SHORT	0		
R211	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R212	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R213	1-216-009-91	RES,CHIP	22	5%	1/10W
R214	1-216-035-00	RES,CHIP	270	5%	1/10W
R215	1-216-035-00	RES,CHIP	270	5%	1/10W
R216	1-216-017-91	RES,CHIP	47	5%	1/10W
R217	1-216-073-00	RES,CHIP	10K	5%	1/10W
R219	1-216-009-91	RES,CHIP	22	5%	1/10W
R220	1-216-097-91	RES,CHIP	100K	5%	1/10W
R221	1-216-097-91	RES,CHIP	100K	5%	1/10W
R222	1-216-049-91	RES,CHIP	1K	5%	1/10W
R223	1-216-049-91	RES,CHIP	1K	5%	1/10W
R224	1-219-497-11	CARBON	22	5%	1/2W
R225	1-216-091-00	RES,CHIP	56K	5%	1/10W
R226	1-216-097-91	RES,CHIP	100K	5%	1/10W
R227	1-216-035-00	RES,CHIP	270	5%	1/10W
R229	1-216-121-91	RES,CHIP	1M	5%	1/10W
R230	1-216-097-91	RES,CHIP	100K	5%	1/10W
R231	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R232	1-216-035-00	RES,CHIP	270	5%	1/10W
R233	1-216-049-91	RES,CHIP	1K	5%	1/10W
R234	1-216-097-91	RES,CHIP	100K	5%	1/10W
R235	1-216-039-00	RES,CHIP	390	5%	1/10W
R236	1-216-097-91	RES,CHIP	100K	5%	1/10W
R237	1-216-097-91	RES,CHIP	100K	5%	1/10W
R239	1-216-049-91	RES,CHIP	1K	5%	1/10W
R241	1-216-009-91	RES,CHIP	22	5%	1/10W
R242	1-216-121-91	RES,CHIP	1M	5%	1/10W
R267	1-216-121-91	RES,CHIP	1M	5%	1/10W
R301	1-215-395-00	METAL	82	1%	1/4W
R302	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R303	1-215-395-00	METAL	82	1%	1/4W
R304	1-216-295-91	SHORT	0		
R305	1-216-017-91	RES,CHIP	47	5%	1/10W
R306	1-216-017-91	RES,CHIP	47	5%	1/10W
R308	1-216-099-00	RES,CHIP	120K	5%	1/10W
R309	1-216-117-00	RES,CHIP	680K	5%	1/10W
R310	1-216-295-91	SHORT	0		
R311	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R312	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R313	1-216-009-91	RES,CHIP	22	5%	1/10W
R314	1-216-035-00	RES,CHIP	270	5%	1/10W

A2 G

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R315	1-216-035-00	RES,CHIP	270	5%	1/10W
R316	1-216-017-91	RES,CHIP	47	5%	1/10W
R317	1-216-073-00	RES,CHIP	10K	5%	1/10W
R319	1-216-009-91	RES,CHIP	22	5%	1/10W
R320	1-216-097-91	RES,CHIP	100K	5%	1/10W
R321	1-216-097-91	RES,CHIP	100K	5%	1/10W
R322	1-216-049-91	RES,CHIP	1K	5%	1/10W
R323	1-216-049-91	RES,CHIP	1K	5%	1/10W
R324	1-219-497-11	CARBON	22	5%	1/2W
R325	1-216-091-00	RES,CHIP	56K	5%	1/10W
R326	1-216-097-91	RES,CHIP	100K	5%	1/10W
R327	1-216-035-00	RES,CHIP	270	5%	1/10W
R329	1-216-121-91	RES,CHIP	1M	5%	1/10W
R330	1-216-097-91	RES,CHIP	100K	5%	1/10W
R331	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R332	1-216-035-00	RES,CHIP	270	5%	1/10W
R333	1-216-049-91	RES,CHIP	1K	5%	1/10W
R334	1-216-097-91	RES,CHIP	100K	5%	1/10W
R335	1-216-039-00	RES,CHIP	390	5%	1/10W
R336	1-216-097-91	RES,CHIP	100K	5%	1/10W
R337	1-216-097-91	RES,CHIP	100K	5%	1/10W
R339	1-216-049-91	RES,CHIP	1K	5%	1/10W
R341	1-216-009-91	RES,CHIP	22	5%	1/10W
R342	1-216-121-91	RES,CHIP	1M	5%	1/10W
R367	1-216-121-91	RES,CHIP	1M	5%	1/10W
R401	1-216-049-91	RES,CHIP	1K	5%	1/10W
R405	1-216-049-91	RES,CHIP	1K	5%	1/10W
R407	1-216-089-91	RES,CHIP	47K	5%	1/10W
R408	1-216-097-91	RES,CHIP	100K	5%	1/10W
R409	1-216-049-91	RES,CHIP	1K	5%	1/10W
R410	1-216-049-91	RES,CHIP	1K	5%	1/10W
R411	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R412	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R413	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R415	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R416	1-216-049-91	RES,CHIP	1K	5%	1/10W
R418	1-260-127-11	CARBON	220K	5%	1/2W
R419	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R420	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R422	1-216-025-91	RES,CHIP	100	5%	1/10W
R424	1-216-025-91	RES,CHIP	100	5%	1/10W
R425	1-216-017-91	RES,CHIP	47	5%	1/10W
R426	1-216-025-91	RES,CHIP	100	5%	1/10W
R427	1-216-025-91	RES,CHIP	100	5%	1/10W
R428	1-216-049-91	RES,CHIP	1K	5%	1/10W
R429	1-216-025-91	RES,CHIP	100	5%	1/10W
R430	1-216-025-91	RES,CHIP	100	5%	1/10W
R431	1-216-025-91	RES,CHIP	100	5%	1/10W
R432	1-216-025-91	RES,CHIP	100	5%	1/10W
R433	1-216-025-91	RES,CHIP	100	5%	1/10W
R434	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R435	1-216-121-91	RES,CHIP	1M	5%	1/10W
R436	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R438	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R439	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R440	1-216-077-00	RES,CHIP	15K	5%	1/10W
R441	1-216-025-91	RES,CHIP	100	5%	1/10W
R442	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R443	1-216-048-00	RES,CHIP	910	5%	1/10W
R444	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R446	1-216-025-91	RES,CHIP	100	5%	1/10W
R451	1-216-025-91	RES,CHIP	100	5%	1/10W
R452	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R453	1-216-073-00	RES,CHIP	10K	5%	1/10W
R454	1-216-073-00	RES,CHIP	10K	5%	1/10W
R456	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R457	1-219-621-91	METAL	22M	10%	1/4W
R458	1-211-885-21	METAL	2.2M	5%	1W
R459	1-219-720-11	METAL	10M	5%	1W
R461	1-260-123-11	CARBON	100K	5%	1/2W
R462	1-216-089-91	RES,CHIP	47K	5%	1/10W
R463	1-216-103-00	RES,CHIP	180K	5%	1/10W
R464	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R466	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R470	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R471	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R473	1-216-049-91	RES,CHIP	1K	5%	1/10W
R475	1-216-049-91	RES,CHIP	1K	5%	1/10W
R476	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R477	1-216-049-91	RES,CHIP	1K	5%	1/10W
R478	1-249-381-11	CARBON	1	5%	1/4W F
R479	1-249-381-11	CARBON	1	5%	1/4W F
R480	1-249-381-11	CARBON	1	5%	1/4W F
R486	1-216-049-91	RES,CHIP	1K	5%	1/10W
R487	1-216-049-91	RES,CHIP	1K	5%	1/10W
R488	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R489	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R493	1-216-025-91	RES,CHIP	100	5%	1/10W

<SPARK GAP>

SG101 1-517-499-21 GAP, SPARK
SG201 1-517-499-21 GAP, SPARK
SG301 1-517-499-21 GAP, SPARK
SG401 1-519-526-11 LAMP, NEON
SG402 1-519-422-11 GAP, SPARK

<SOCKET>

SK401⚠1-251-640-11SOCKET, PICTURE TUBE

****

* 8-933-333-00 G BOARD COMPLETE
****

1-533-223-11 HOLDER, FUSE (F601)
4-382-854-11 SCREW (M3X10), P, SW (+)
(Q610, Q611, Q640, D610, D672)

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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G

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<CAPACITOR>			
C601⚠	1-113-900-51	CERAMIC	470pF	10%	250V
C602⚠	1-113-900-51	CERAMIC	470pF	10%	250V
C603⚠	1-107-533-51	FILM	1µF	20%	250V
C604⚠	1-107-533-51	FILM	1µF	20%	250V
C605⚠	1-113-926-91	CERAMIC	0.0047µF		250V
C606⚠	1-113-926-91	CERAMIC	0.0047µF		250V
C610	1-137-479-11	FILM	1µF	10%	400V
C611	1-113-707-11	ELECT(BLOCK)	220µF	20%	450V
C616	1-104-664-11	ELECT	47µF	20%	25V
C621	1-136-205-11	FILM	0.022µF	10%	630V
C640	1-104-330-91	CERAMIC	470pF	10%	1KV
C641	1-104-330-91	CERAMIC	470pF	10%	1KV
C642	1-136-169-00	FILM	0.22µF	5%	50V
C643	1-136-169-00	FILM	0.22µF	5%	50V
C644	1-104-330-91	CERAMIC	470pF	10%	1KV
C645	1-136-165-00	FILM	0.1µF	5%	50V
C646	1-136-165-00	FILM	0.1µF	5%	50V
C647	1-129-718-00	FILM	0.022µF	5%	630V
C660	1-115-779-11	ELECT	120µF	20%	25V
C661	1-126-933-11	ELECT	100µF	20%	16V
C662	1-130-495-00	FILM	0.1µF	5%	50V
C663	1-126-965-11	ELECT	22µF	20%	50V
C670	1-137-370-11	FILM	0.01µF	5%	50V
C671	1-107-955-11	ELECT	100µF	20%	200V
C672	1-107-950-11	ELECT	3.3µF	20%	200V
C673	1-107-935-11	ELECT	330µF	20%	100V
C674	1-107-928-11	ELECT	4.7µF	20%	100V
C675	1-107-890-11	ELECT	2200µF	20%	25V
C676	1-107-888-11	ELECT	47µF	20%	25V
C677	1-107-890-11	ELECT	2200µF	20%	25V
C678	1-107-888-11	ELECT	47µF	20%	25V
C679	1-126-927-11	ELECT	2200µF	20%	10V
C680	1-126-927-11	ELECT	2200µF	20%	10V
C681	1-126-963-11	ELECT	4.7µF	20%	50V
C682	1-126-963-11	ELECT	4.7µF	20%	50V
C683	1-164-646-11	CERAMIC	2200pF	10%	500V
C684	1-137-370-11	FILM	0.01µF	5%	50V
C685	1-126-967-11	ELECT	47µF	20%	50V
C690	1-128-528-11	ELECT	470µF	20%	16V
C691	1-107-888-11	ELECT	47µF	20%	25V
C692	1-115-737-11	ELECT	0.001F	20%	10V
C693	1-130-495-00	FILM	0.1µF	5%	50V
C694	1-107-888-11	ELECT	47µF	20%	25V
		<CONNECTOR>			
CN603*	1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P			
CN604*	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P			
CN605*	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P			
CN671*	1-764-334-11	PLUG, CONNECTOR 11P			
CN672*	1-564-512-11	PLUG, CONNECTOR 9P			
CN673*	1-564-508-11	PLUG, CONNECTOR 5P			

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<DIODE>	
D610⚠	8-719-510-53	DIODE D4SB60L	
D611	8-719-029-04	DIODE D5L60	
D612	8-719-304-63	DIODE RM11C	
D614	8-719-911-19	DIODE 1SS119-25	
D617	8-719-911-19	DIODE 1SS119-25	
D640	8-719-911-19	DIODE 1SS119-25	
D660	8-719-066-51	DIODE P6KE170AG23	
D661	8-719-979-64	DIODE UF4005PKG23	
D662	8-719-058-92	DIODE AG01A-V1	
D663	8-719-110-31	ZENER DIODE RD12ESB2	
D664	8-719-911-19	DIODE 1SS119-25	
D665	8-719-110-31	ZENER DIODE RD12ESB2	
D666	8-719-109-97	ZENER DIODE RD6.8ESB2	
D670	8-719-064-49	DIODE D4SBL40	
D671	8-719-510-64	DIODE S2LA20F	
D672	8-719-052-91	DIODE D4SBS4-F	
D673	8-719-022-97	DIODE D2S4MF	
D674	8-719-022-97	DIODE D2S4MF	
D677	8-719-911-19	DIODE 1SS119-25	
D678	8-719-911-19	DIODE 1SS119-25	
D680	8-719-911-19	DIODE 1SS119-25	
D681	8-719-911-19	DIODE 1SS119-25	
D682	8-719-510-64	DIODE S2LA20F	
D683	8-719-911-19	DIODE 1SS119-25	
D684	8-719-110-49	ZENER DIODE RD18ESB2	
D691	8-719-028-45	DIODE D2L20U	
D692	8-719-911-19	DIODE 1SS119-25	
		<FUSE>	
F601⚠	1-576-233-11	FUSE (H.B.C.) (6.3A/250V)	
		<FERRITE BEAD>	
FB610	1-410-396-71	FERRITE 0.45µH	
FB611	1-410-396-71	FERRITE 0.45µH	
FB612	1-410-396-71	FERRITE 0.45µH	
		<IC>	
IC610	8-749-013-77	IC TME757	
IC630	8-749-012-49	IC DM-57N	
IC660	8-759-469-10	IC TOP223PF1	
IC690	8-749-013-76	IC PQ6RD83B	
		<COIL>	
L610	1-416-297-11	COIL, CHOKE 500µH	
L611	1-412-529-11	INDUCTOR 22µH	
L612	1-412-529-11	INDUCTOR 22µH	
L670	1-412-529-11	INDUCTOR 22µH	
L671	1-412-529-11	INDUCTOR 22µH	
L672	1-412-529-11	INDUCTOR 22µH	
L673	1-412-529-11	INDUCTOR 22µH	
L691	1-412-529-11	INDUCTOR 22µH	

G

Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
L692	1-412-529-11	INDUCTOR	22µH			
		<PHOTO COUPLER>				
PH680	8-749-010-64	PHOTO COUPLER PC123F2				
		<IC LINK>				
PS674⚠	1-533-593-31	LINK, IC (2A/90V AC, 60V DC)				
		<TRANSISTOR>				
Q610	8-729-041-65	TRANSISTOR 2SK2195F04				
Q615	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q640	8-729-039-65	TRANSISTOR MX0541B-F				
Q641	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q642	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q660	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q680	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q681	8-729-230-45	TRANSISTOR 2SC2458-YGR				
Q682	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q683	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q690	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R601⚠	1-220-825-91	CARBON	330K	5%	1/2W	
R604	1-260-089-11	CARBON	150	5%	1/2W	
R605	1-247-863-91	CARBON	22K	5%	1/4W	
R610	1-207-616-00	WIREWOUND	0.47	10%	2W	F
R611	1-207-616-00	WIREWOUND	0.47	10%	2W	F
R612	1-260-123-11	CARBON	100K	5%	1/2W	
R613	1-260-123-11	CARBON	100K	5%	1/2W	
R619	1-215-485-00	METAL	470K	1%	1/4W	
R620	1-215-483-00	METAL	390K	1%	1/4W	
R621	1-215-483-00	METAL	390K	1%	1/4W	
R625	1-249-393-11	CARBON	10	5%	1/4W	
R626	1-249-429-11	CARBON	10K	5%	1/4W	
R627	1-215-485-00	METAL	470K	1%	1/4W	
R628	1-215-481-00	METAL	330K	1%	1/4W	
R629	1-215-463-00	METAL	56K	1%	1/4W	
R630	1-247-863-91	CARBON	22K	5%	1/4W	
R631	1-249-407-11	CARBON	150	5%	1/4W	
R632	1-249-429-11	CARBON	10K	5%	1/4W	
R633	1-215-481-00	METAL	330K	1%	1/4W	
R635	1-249-429-11	CARBON	10K	5%	1/4W	
R640	1-220-926-11	FUSIBLE	0.47	10%	1/2W	F
R641	1-218-642-11	METAL OXIDE	100K	5%	1W	F
R642	1-218-642-11	METAL OXIDE	100K	5%	1W	F
R643	1-247-863-91	CARBON	22K	5%	1/4W	
R644	1-247-887-00	CARBON	220K	5%	1/4W	
R645	1-247-863-91	CARBON	22K	5%	1/4W	
R646	1-249-429-11	CARBON	10K	5%	1/4W	
R647	1-249-441-11	CARBON	100K	5%	1/4W	
R648	1-249-385-11	CARBON	2.2	5%	1/4W	
R649	1-218-642-11	METAL OXIDE	100K	5%	1W	F
R650	1-218-642-11	METAL OXIDE	100K	5%	1W	F
R651	1-249-385-11	CARBON	2.2	5%	1/4W	
R652	1-212-942-00	FUSIBLE	2.2	5%	1/2W	F
R655	1-249-429-11	CARBON	10K	5%	1/4W	
R661	1-249-389-11	CARBON	4.7	5%	1/4W	F
R662	1-249-429-11	CARBON	10K	5%	1/4W	
R663	1-249-429-11	CARBON	10K	5%	1/4W	
R664	1-249-389-11	CARBON	4.7	5%	1/4W	
R665	1-249-401-11	CARBON	47	5%	1/4W	
R671	1-247-895-91	CARBON	470K	5%	1/4W	
R672	1-249-417-11	CARBON	1K	5%	1/4W	
R673	1-249-413-11	CARBON	470	5%	1/4W	F
R674	1-249-377-11	CARBON	0.47	5%	1/4W	F
R675	1-260-292-11	CARBON	1	5%	1/2W	
R680	1-249-429-11	CARBON	10K	5%	1/4W	
R681	1-249-417-11	CARBON	1K	5%	1/4W	
R682	1-249-425-11	CARBON	4.7K	5%	1/4W	
R683	1-247-807-31	CARBON	100	5%	1/4W	
R685	1-249-429-11	CARBON	10K	5%	1/4W	
R686	1-249-417-11	CARBON	1K	5%	1/4W	
R687	1-249-417-11	CARBON	1K	5%	1/4W	
R688	1-249-429-11	CARBON	10K	5%	1/4W	
R689	1-249-425-11	CARBON	4.7K	5%	1/4W	
R690	1-249-393-11	CARBON	10	5%	1/4W	F
R692	1-260-085-11	CARBON	68	5%	1/2W	
R693	1-249-425-11	CARBON	4.7K	5%	1/4W	
R694	1-249-429-11	CARBON	10K	5%	1/4W	
		<RELAY>				
RY601⚠	1-755-232-11	RELAY, AC POWER				
RY602⚠	1-755-268-11	RELAY, AC POWER				
		<TRANSFORMER>				
T601 ⚠	1-429-180-11	TRANSFORMER, LINE FILTER				
T640	1-431-415-11	TRANSFORMER, CONVERTER (PIT)				
T641	1-429-992-11	TRANSFORMER, CONVERTER (PRT)				
T660	1-431-565-11	TRANSFORMER, CONVERTER (SRT)				
		<THERMISTOR>				
TH601 ⚠	1-809-260-11	THERMISTOR, POWER				
THP601⚠	1-809-827-11	THERMISTOR, POSITIVE				
		<VARISTOR>				
VDR601⚠	1-801-268-31	VARISTOR TNR14V471K660				
VDR602⚠	1-810-622-21	VARISTOR				
VDR640	1-810-974-21	VARISTOR TNR10V431K660				

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REF.NO.	PART NO.	DESCRIPTION			REMARK
*	8-933-330-00	D BOARD COMPLETE			
		**********			
	4-040-989-01	SPRING (A), TR RETAINER (R511)			
	4-040-992-01	SPRING (AA), TR RETAINER (IC502, Q507)			
	4-040-994-01	SPRING (BB), TR RETAINER (Q508, D519)			
	4-060-719-02	SHEET, INSULATE (IC502)			
	4-060-844-01	SHEET, INSULATING (IC702)			
	4-382-854-01	SCREW (M3X8), P, SW (+) (R937)			
	4-382-854-11	SCREW (M3X10), P, SW (+) (IC702, Q704, Q706, Q908, Q909)			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3 (IC502, Q507, Q508, D519, R511)			
	<CAPACITOR>				
C001	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C002	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C003	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C004	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C005	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C007	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C008	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C009	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C010	1-163-237-11	CERAMIC CHIP	27pF	5%	50V
C011	1-163-237-11	CERAMIC CHIP	27pF	5%	50V
C012	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C013	1-126-967-11	ELECT	47µF	20%	50V
C014	1-107-914-11	ELECT	1000µF	20%	25V
C015	1-107-914-11	ELECT	1000µF	20%	25V
C016	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C017	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C018	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C019	1-126-967-11	ELECT	47µF	20%	50V
C020	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C021	1-163-023-00	CERAMIC CHIP	0.015µF	10%	50V
C022	1-126-933-11	ELECT	100µF	20%	16V
C023	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C025	1-126-960-11	ELECT	1µF	20%	50V
C026	1-137-372-11	FILM	0.022µF	5%	50V
C027	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C028	1-164-690-91	CERAMIC CHIP	0.0022µF	5%	50V
C029	1-126-960-11	ELECT	1µF	20%	50V
C030	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C031	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C032	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C034	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C035	1-163-121-00	CERAMIC CHIP	150pF	5%	50V
C036	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C037	1-126-934-11	ELECT	220µF	20%	16V
C038	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C039	1-126-964-11	ELECT	10µF	20%	50V
C040	1-126-963-11	ELECT	4.7µF	20%	50V
C041	1-126-960-11	ELECT	1µF	20%	50V
C042	1-126-967-11	ELECT	47µF	20%	50V
C043	1-126-967-11	ELECT	47µF	20%	50V
C044	1-126-967-11	ELECT	47µF	20%	50V
C045	1-163-137-00	CERAMIC CHIP	680pF	5%	50V
C046	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C047	1-126-934-11	ELECT	220µF	20%	16V
C048	1-164-690-91	CERAMIC CHIP	0.0022µF	5%	50V
C049	1-163-137-00	CERAMIC CHIP	680pF	5%	50V
C050	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C051	1-126-960-11	ELECT	1µF	20%	50V
C052	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C054	1-126-963-11	ELECT	4.7µF	20%	50V
C055	1-126-963-11	ELECT	4.7µF	20%	50V
C056	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C057	1-107-909-11	ELECT	47µF	20%	50V
C058	1-126-934-11	ELECT	220µF	20%	16V
C059	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C060	1-126-964-11	ELECT	10µF	20%	50V
C061	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C063	1-130-495-00	FILM	0.1µF	5%	50V
C065	1-126-965-11	ELECT	22µF	20%	50V
C066	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C067	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C068	1-126-964-11	ELECT	10µF	20%	50V
C069	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C070	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C072	1-126-960-11	ELECT	1µF	20%	50V
C074	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C075	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C076	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C077	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C078	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C079	1-126-967-11	ELECT	47µF	20%	50V
C080	1-126-967-11	ELECT	47µF	20%	50V
C081	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C082	1-126-964-11	ELECT	10µF	20%	50V
C083	1-130-495-00	FILM	0.1µF	5%	50V
C084	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C085	1-130-495-00	FILM	0.1µF	5%	50V
C086	1-126-964-11	ELECT	10µF	20%	50V
C087	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C088	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C089	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C090	1-109-982-11	CERAMIC CHIP	1µF	10%	10V
C092	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C093	1-126-964-11	ELECT	10µF	20%	50V
C094	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C095	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C096	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C097	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C098	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C099	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C501	1-107-909-11	ELECT	47µF	20%	50V
C502	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C503	1-136-169-00	FILM	0.22µF	5%	50V
C504	1-137-605-11	FILM	0.01µF	10%	250V
C505	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C506	1-136-169-00	FILM	0.22µF	5%	50V
C507	1-137-194-81	FILM	0.47µF	5%	50V
C508	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C509	1-126-941-11	ELECT	470µF	20%	25V
C510	1-137-368-11	FILM	0.0047µF	5%	50V
C511	1-110-641-51	ELECT	33µF	20%	200V
C512	1-107-889-11	ELECT	220µF	20%	25V
C513	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C514	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C515	1-107-889-11	ELECT	220µF	20%	25V
C516	1-130-495-00	FILM	0.1µF	5%	50V
C517	1-104-574-11	CERAMIC	0.0047µF	10%	2KV
C518	1-117-413-11	FILM	6000pF	3%	1.8KV
C519	1-107-444-11	CERAMIC	100pF	5%	2KV
C520	1-136-553-11	FILM	0.0015µF	5%	630V
C521	1-107-597-11	CERAMIC	22pF	5%	500V
C522	1-107-444-11	CERAMIC	100pF	5%	2KV
C523	1-137-370-11	FILM	0.01µF	5%	50V
C524	1-113-694-11	FILM	0.056µF	5%	250V
C525	1-107-846-11	FILM	0.1µF	5%	250V
C526	1-115-514-11	FILM	0.22µF	5%	250V
C527	1-115-517-11	FILM	0.39µF	5%	250V
C528	1-115-521-11	FILM	0.82µF	5%	250V
C529	1-107-683-11	ELECT	2.2µF	0	250V
C530	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C531	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C532	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C533	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C534	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C535	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C536	1-128-526-11	ELECT	100µF	20%	25V
C537	1-115-523-21	FILM	1.2µF	5%	250V
C538	1-117-958-11	FILM	0.24µF	5%	400V
C539	1-107-960-11	ELECT	4.7µF	20%	250V
C540	1-106-343-00	MYLAR	0.001µF	10%	200V
C541	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C542	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C544	1-137-368-11	FILM	0.0047µF	5%	50V
C545	1-126-967-11	ELECT	47µF	20%	50V
C547	1-126-967-11	ELECT	47µF	20%	50V
C549	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C550	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C551	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C553	1-126-963-11	ELECT	4.7µF	20%	50V
C554	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C555	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C556	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C557	1-115-185-11	CERAMIC CHIP	0.033µF	10%	50V
C559	1-162-134-11	CERAMIC	470pF	10%	2KV
C561	1-137-194-81	FILM	0.47µF	5%	50V
C562	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C563	1-117-214-11	CERAMIC	0.001µF	10%	2KV
C564	1-126-963-11	ELECT	4.7µF	20%	50V
C666	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C667	1-126-967-11	ELECT	47µF	20%	50V
C701	1-126-967-11	ELECT	47µF	20%	50V
C702	1-130-495-00	FILM	0.1µF	5%	50V
C705	1-126-942-61	ELECT	1000µF	20%	25V
C706	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C707	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C709	1-130-495-00	FILM	0.1µF	5%	50V
C710	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C711	1-107-894-11	ELECT	220µF	20%	35V
C712	1-106-228-00	MYLAR	0.22µF	10%	100V
C713	1-126-942-61	ELECT	1000µF	20%	25V
C714	1-126-967-11	ELECT	47µF	20%	50V
C715	1-107-932-11	ELECT	47µF	20%	100V
C717	1-107-930-91	ELECT	22µF	20%	100V
C729	1-162-134-11	CERAMIC	470pF	10%	2KV
C735	1-130-495-00	FILM	0.1µF	5%	50V
C746	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C747	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C750	1-126-964-11	ELECT	10µF	20%	50V
C751	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C901	1-107-889-11	ELECT	220µF	20%	25V
C902	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C903	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C904	1-137-605-11	FILM	0.01µF	10%	250V
C905	1-104-653-11	ELECT	220µF	20%	16V
C906	1-106-220-00	MYLAR	0.1µF	10%	100V
C907	1-110-641-51	ELECT	33µF	20%	200V
C908	1-136-169-00	FILM	0.22µF	5%	50V
C909	1-106-355-12	MYLAR	0.0033µF	10%	200V
C910	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C911	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C912	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C913	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C914	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C915	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C916	1-136-064-00	FILM	2200pF	3%	1.2KV
C917	1-107-889-11	ELECT	220µF	20%	25V
C919	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C920	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C921	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C922	1-117-665-11	FILM	0.33µF	5%	200V
C923	1-106-359-00	MYLAR	0.0047µF	10%	100V
C924	1-106-220-00	MYLAR	0.1µF	10%	100V
C925	1-137-372-11	FILM	0.022µF	5%	50V
C926	1-106-228-00	MYLAR	0.22µF	10%	100V
C927	1-107-903-11	ELECT	2.2µF	20%	50V
C928	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C929	1-128-526-11	ELECT	100µF	20%	25V
C930	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C931	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C945	1-107-909-11	ELECT	47µF	20%	50V
C1003	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1004	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1005	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1007	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1008	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1009	1-126-960-11	ELECT	1µF	20%	50V
C1501	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1502	1-117-722-11	ELECT	2200µF	20%	10V
C1503	1-163-001-11	CERAMIC CHIP	220pF	10%	50V

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<CONNECTOR>	
CN501*	1-564-512-11	PLUG, CONNECTOR 9P	
CN502*	1-764-334-11	PLUG, CONNECTOR 11P	
CN503*	1-564-510-11	PLUG, CONNECTOR 7P	
CN504*	1-564-508-11	PLUG, CONNECTOR 5P	
CN505*	1-508-879-11	BASE POST	
CN506*	1-564-511-11	PLUG, CONNECTOR 8P	
CN507	1-764-101-11	PIN, CONNECTOR (PC BOARD) 2P	
CN508*	1-778-955-11	PIN, CONNECTOR (PC BOARD) 10P	
CN509*	1-564-505-11	PLUG, CONNECTOR 2P	
CN511*	1-564-516-11	PLUG, CONNECTOR 13P	
CN512*	1-564-512-11	PLUG, CONNECTOR 9P	
CN520*	1-564-509-11	PLUG, CONNECTOR 6P	
CN901*	1-564-520-11	PLUG, CONNECTOR 5P	
		<DIODE>	
D004	8-719-800-76	DIODE 1SS226	
D009	8-719-976-99	ZENER DIODE DTZ5.1B	
D010	8-719-976-99	ZENER DIODE DTZ5.1B	
D012	8-719-800-76	DIODE 1SS226	
D013	8-719-800-76	DIODE 1SS226	
D014	8-719-800-76	DIODE 1SS226	
D015	8-719-800-76	DIODE 1SS226	
D016	8-719-800-76	DIODE 1SS226	
D019	8-719-800-76	DIODE 1SS226	
D020	8-719-800-76	DIODE 1SS226	
D025	8-719-976-99	ZENER DIODE DTZ5.1B	
D026	8-719-800-76	DIODE 1SS226	
D027	8-719-800-76	DIODE 1SS226	
D028	8-719-800-76	DIODE 1SS226	
D029	8-719-800-76	DIODE 1SS226	
D032	8-719-976-99	ZENER DIODE DTZ5.1B	
D035	8-719-801-78	DIODE 1SS184	
D050	8-719-404-50	DIODE MA111-TX	
D501	8-719-977-40	ZENER DIODE DTZ13B	
D502	8-719-063-89	DIODE YG911S3R	
D503	8-719-404-50	DIODE MA111-TX	
D504	8-719-984-73	DIODE SB560	
D505	8-719-018-82	DIODE RGP02-20EL-6394	
D506	8-719-911-19	DIODE 1SS119-25	
D507	8-719-911-19	DIODE 1SS119-25	
D508	8-719-109-85	ZENER DIODE RD5.1ESB2	
D509	8-719-911-19	DIODE 1SS119-25	
D510	8-719-951-30	DIODE ERA91-02	
D511	8-719-911-19	DIODE 1SS119-25	
D512	8-719-018-82	DIODE RGP02-20EL-6394	
D513	8-719-404-50	DIODE MA111-TX	
D514	8-719-109-93	ZENER DIODE RD6.2ESB2	
D516	8-719-056-82	ZENER DIODE UDZ-TE-17-6.2B	
D517	8-719-056-82	ZENER DIODE UDZ-TE-17-6.2B	
D518	8-719-404-50	DIODE MA111-TX	
D519	8-719-061-21	DIODE FMQ-G5FMS	
D520	8-719-031-34	DIODE RGP02-20EG23	
D521	8-719-404-50	DIODE MA111-TX	
D660	8-719-977-69	ZENER DIODE DTZ24B	
D701	8-719-158-15	ZENER DIODE RD5.6SB	
D704	8-719-404-50	DIODE MA111-TX	
D705	8-719-404-50	DIODE MA111-TX	
D706	8-719-976-99	ZENER DIODE DTZ5.1B	
D709	8-719-979-85	DIODE EGP20G	
D713	8-719-911-19	DIODE 1SS119-25	
D714	8-719-911-19	DIODE 1SS119-25	
D715	8-719-911-19	DIODE 1SS119-25	
D718	8-719-976-99	ZENER DIODE DTZ5.1B	
D720	8-719-028-72	DIODE RGP02-17EL-6433	
D721	8-719-028-72	DIODE RGP02-17EL-6433	
D901	8-719-404-50	DIODE MA111-TX	
D902	8-719-404-50	DIODE MA111-TX	
D903	8-719-911-19	DIODE 1SS119-25	
D904	8-719-404-50	DIODE MA111-TX	
D905	8-719-404-50	DIODE MA111-TX	
D906	8-719-404-50	DIODE MA111-TX	
D907	8-719-158-49	ZENER DIODE RD12SB2	
D908	8-719-158-49	ZENER DIODE RD12SB2	
D909	8-719-977-40	ZENER DIODE DTZ13B	
D910	8-719-063-89	DIODE YG911S3R	
D911	8-719-978-69	ZENER DIODE DTZ-TT11-16B	
D913	8-719-158-49	ZENER DIODE RD12SB2	
D915	8-719-109-85	ZENER DIODE RD5.1ESB2	
D916	8-719-939-79	DIODE GMA01-BT	
D917	8-719-110-46	ZENER DIODE RD16ESB3	
D919	8-719-911-19	DIODE 1SS119-25	
D921	8-719-404-50	DIODE MA111-TX	
D922	8-719-404-50	DIODE MA111-TX	
D923	8-719-404-50	DIODE MA111-TX	
D924	8-719-976-99	ZENER DIODE DTZ5.1B	
D935	8-719-977-81	ZENER DIODE DTZ33B	
D1092	8-719-800-76	DIODE 1SS226	
D1501	8-719-976-99	ZENER DIODE DTZ5.1B	
D1502	8-719-404-50	DIODE MA111-TX	
D1503	8-719-404-50	DIODE MA111-TX	
		<FERRITE BEAD>	
FB501	1-410-397-21	FERRITE 1.1µH	
FB502	1-410-397-21	FERRITE 1.1µH	
FB901	1-410-397-21	FERRITE 1.1µH	
FB1025	1-414-232-11	INDUCTOR CHIP	
		<IC>	
IC001	8-759-547-39	IC MB90553PF-G-124-BND	
IC002	8-759-442-20	IC 24LC21AT/SN	
IC003	8-759-168-20	IC TA78L09S	
IC004	8-759-454-79	IC 24LC16BT/SN	
IC005	8-759-162-80	IC MM1170BFB	
IC006	8-759-231-53	IC TA7805S	
IC007	8-752-078-46	IC CXA2043Q	
IC008	8-759-701-59	IC NJM78M09FA	
IC009	8-759-082-57	IC TC7W04FU	
IC010	8-752-083-83	IC CXA2044M-T6	

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Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC011	8-759-708-05	IC NJM78L05A	
IC013	8-759-233-66	IC TC74HCT04AF	
IC502	8-759-803-42	IC LA6500-FA	
IC505	8-759-100-96	IC µPC4558G2	
IC701	8-759-822-38	IC LA6510	
IC702	8-759-444-82	IC LA7841L	
IC703	8-759-100-96	IC µPC4558G2	
IC901⚠	8-759-467-70	IC BA9756FS-E2	
		<CHIP CONDUCTOR>	
JR001	1-216-295-91	SHORT 0	
JR002	1-216-295-91	SHORT 0	
JR003	1-216-295-91	SHORT 0	
JR004	1-216-295-91	SHORT 0	
		<COIL>	
L001	1-406-665-11	COIL, CHOKE 100µH	
L002	1-406-665-11	COIL, CHOKE 100µH	
L003	1-412-537-31	INDUCTOR 100µH	
L004	1-412-537-31	INDUCTOR 100µH	
L006	1-410-482-31	INDUCTOR 100µH	
L007	1-412-537-31	INDUCTOR 100µH	
L008	1-412-537-31	INDUCTOR 100µH	
L501	1-412-537-31	INDUCTOR 100µH	
L502	1-406-671-11	COIL, CHOKE 1.0mH	
L503	1-416-455-11	COIL, HORIZONTAL LINEARITY	
L504	1-416-456-11	COIL, HORIZONTAL LINEARITY	
L505	1-406-675-11	COIL, CHOKE 4.7mH	
L507	1-406-675-11	COIL, CHOKE 4.7mH	
L701	1-412-537-31	INDUCTOR 100µH	
L702	1-412-522-41	INDUCTOR 5.6µH	
L901	1-412-537-31	INDUCTOR 100µH	
L902	1-406-660-41	COIL, CHOKE 15µH	
L903	1-412-537-31	INDUCTOR 100µH	
		<IC LINK>	
PS501⚠	1-533-592-31	LINK, IC (1.6A/90V AC, 60V DC)	
PS502⚠	1-532-984-91	LINK, IC (2A/90V)	
PS503⚠	1-532-984-91	LINK, IC (2A/90V)	
PS504⚠	1-532-984-91	LINK, IC (2A/90V)	
PS701⚠	1-533-590-31	LINK, IC (1A/90V AC, 60V DC)	
PS901⚠	1-533-592-31	LINK, IC (1.6A/90V AC, 60V DC)	
		<TRANSISTOR>	
Q001	8-729-027-31	TRANSISTOR DTA124EKA-T146	
Q003	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q004	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q005	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q006	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q007	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q501	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q502	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q503	8-729-901-97	TRANSISTOR 2SA1036K-Q	
Q504	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q505	8-729-901-97	TRANSISTOR 2SA1036K-Q	
Q506	8-729-820-73	TRANSISTOR 2SC3746	
Q507	8-729-035-54	TRANSISTOR 2SJ449	
Q508	8-729-036-33	TRANSISTOR 2SC5301-CA	
Q509	8-729-033-25	TRANSISTOR DTC114GKA	
Q510	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q511	8-729-140-50	TRANSISTOR 2SC3209LK	
Q512	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q517	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q522	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
Q523	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
Q524	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
Q525	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
Q526	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
Q527	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
Q528	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
Q660	8-729-033-26	TRANSISTOR DTA114GKAT146	
Q661	8-729-033-25	TRANSISTOR DTC114GKA	
Q701	8-729-800-32	TRANSISTOR 2SC2362K-G	
Q703	8-729-178-43	TRANSISTOR 2SC2784-E	
Q704	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q705	8-729-204-91	TRANSISTOR 2SA1049-GR	
Q706	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q707	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q708	8-729-020-07	TRANSISTOR 2SC4686A (LBSONY)	
Q901	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q902	8-729-920-72	TRANSISTOR 2SA1037K-T-146-QR	
Q904	8-729-901-87	TRANSISTOR 2SC2411K-CQ	
Q905	8-729-901-97	TRANSISTOR 2SA1036K-Q	
Q908	8-729-035-54	TRANSISTOR 2SJ449	
Q909	8-729-041-58	TRANSISTOR 2SK2675	
Q911	8-729-033-25	TRANSISTOR DTC114GKA	
		<RESISTOR>	
R001	1-216-025-91	RES,CHIP 100 5% 1/10W	
R002	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R003	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R004	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R005	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R006	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R007	1-216-025-91	RES,CHIP 100 5% 1/10W	
R008	1-216-077-00	RES,CHIP 15K 5% 1/10W	
R009	1-216-025-91	RES,CHIP 100 5% 1/10W	
R010	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R011	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R012	1-216-025-91	RES,CHIP 100 5% 1/10W	
R013	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R017	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R018	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R020	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R023	1-216-025-91	RES,CHIP 100 5% 1/10W	
R024	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R025	1-216-295-91	SHORT 0	
R026	1-216-073-00	RES,CHIP 10K 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R027	1-216-073-00	RES,CHIP	10K	5%	1/10W
R030	1-216-017-91	RES,CHIP	47	5%	1/10W
R031	1-216-073-00	RES,CHIP	10K	5%	1/10W
R032	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R033	1-216-017-91	RES,CHIP	47	5%	1/10W
R034	1-216-025-91	RES,CHIP	100	5%	1/10W
R035	1-216-049-91	RES,CHIP	1K	5%	1/10W
R036	1-216-025-91	RES,CHIP	100	5%	1/10W
R037	1-216-686-11	METAL CHIP	30K	0.50%	1/10W
R038	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R039	1-216-049-91	RES,CHIP	1K	5%	1/10W
R040	1-216-049-91	RES,CHIP	1K	5%	1/10W
R041	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R042	1-216-089-91	RES,CHIP	47K	5%	1/10W
R043	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R044	1-216-095-00	RES,CHIP	82K	5%	1/10W
R045	1-216-073-00	RES,CHIP	10K	5%	1/10W
R046	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R047	1-216-073-00	RES,CHIP	10K	5%	1/10W
R048	1-216-049-91	RES,CHIP	1K	5%	1/10W
R050	1-216-025-91	RES,CHIP	100	5%	1/10W
R051	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R052	1-216-073-00	RES,CHIP	10K	5%	1/10W
R053	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R054	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R055	1-216-089-91	RES,CHIP	47K	5%	1/10W
R056	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R057	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R058	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R059	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R060	1-216-025-91	RES,CHIP	100	5%	1/10W
R061	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R063	1-216-025-91	RES,CHIP	100	5%	1/10W
R064	1-216-025-91	RES,CHIP	100	5%	1/10W
R065	1-216-025-91	RES,CHIP	100	5%	1/10W
R066	1-216-025-91	RES,CHIP	100	5%	1/10W
R067	1-216-025-91	RES,CHIP	100	5%	1/10W
R068	1-216-025-91	RES,CHIP	100	5%	1/10W
R069	1-216-017-91	RES,CHIP	47	5%	1/10W
R070	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R071	1-216-049-91	RES,CHIP	1K	5%	1/10W
R072	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R073	1-216-295-91	SHORT	0		
R074	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R075	1-216-049-91	RES,CHIP	1K	5%	1/10W
R076	1-216-049-91	RES,CHIP	1K	5%	1/10W
R077	1-216-049-91	RES,CHIP	1K	5%	1/10W
R078	1-216-049-91	RES,CHIP	1K	5%	1/10W
R081	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R082	1-216-049-91	RES,CHIP	1K	5%	1/10W
R083	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R084	1-216-025-91	RES,CHIP	100	5%	1/10W
R085	1-216-025-91	RES,CHIP	100	5%	1/10W
R086	1-216-049-91	RES,CHIP	1K	5%	1/10W
R088	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R089	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R090	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R092	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R094	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R096	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R097	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R101	1-216-049-91	RES,CHIP	1K	5%	1/10W
R501	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R502	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R503	1-216-041-00	RES,CHIP	470	5%	1/10W
R504	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R505	1-216-041-00	RES,CHIP	470	5%	1/10W
R506	1-249-397-11	CARBON	22	5%	1/4W F
R507	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R508	1-216-025-91	RES,CHIP	100	5%	1/10W
R509	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R510	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R511	1-219-726-11	METAL	2.2	5%	10W
R512	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R513	1-215-860-11	METAL OXIDE	33	5%	1W F
R514	1-211-796-11	FUSIBLE	1	5%	1/2W F
R515	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R516	1-247-815-91	CARBON	220	5%	1/4W
R517	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R518	1-216-097-91	RES,CHIP	100K	5%	1/10W
R519	1-216-393-00	METAL OXIDE	2.2	5%	3W F
R520	1-216-393-00	METAL OXIDE	2.2	5%	3W F
R521	1-249-413-11	CARBON	470	5%	1/4W F
R522	1-216-423-11	METAL OXIDE	27	5%	1W F
R523	1-249-421-11	CARBON	2.2K	5%	1/4W F
R524	1-215-869-11	METAL OXIDE	1K	5%	1W F
R525	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R526	1-214-840-00	METAL	100	1%	1/2W
R527	1-214-840-00	METAL	100	1%	1/2W
R528	1-214-840-00	METAL	100	1%	1/2W
R529	1-260-313-51	CARBON	56	5%	1/2W
R530	1-249-437-11	CARBON	47K	5%	1/4W
R531	1-249-437-11	CARBON	47K	5%	1/4W
R532	1-249-437-11	CARBON	47K	5%	1/4W
R533	1-249-437-11	CARBON	47K	5%	1/4W
R534	1-249-437-11	CARBON	47K	5%	1/4W
R535	1-216-049-91	RES,CHIP	1K	5%	1/10W
R536	1-216-049-91	RES,CHIP	1K	5%	1/10W
R537	1-216-049-91	RES,CHIP	1K	5%	1/10W
R538	1-216-049-91	RES,CHIP	1K	5%	1/10W
R539	1-216-049-91	RES,CHIP	1K	5%	1/10W
R540	1-216-073-00	RES,CHIP	10K	5%	1/10W
R541	1-260-314-11	CARBON	68	5%	1/2W
R542	1-215-863-11	METAL OXIDE	100	5%	1W F
R543	1-216-640-11	METAL CHIP	360	0.50%	1/10W
R544	1-260-085-11	CARBON	68	5%	1/2W
R545	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R546	1-260-288-11	CARBON	0.47	5%	1/2W
R547	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R548	1-215-443-00	METAL	8.2K	1%	1/4W
R549	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R550	1-260-288-11	CARBON	0.47	5%	1/2W

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REF.NO.	PART NO.	DESCRIPTION		REMARK
R551	1-216-659-11	METAL CHIP	2.2K	0.50% 1/10W
R552	1-216-057-00	RES,CHIP	2.2K	5% 1/10W
R553	1-216-655-11	METAL CHIP	1.5K	0.50% 1/10W
R554	1-216-675-11	METAL CHIP	10K	0.50% 1/10W
R555	1-216-065-91	RES,CHIP	4.7K	5% 1/10W
R556	1-216-674-11	METAL CHIP	9.1K	0.50% 1/10W
R557	1-218-760-11	METAL CHIP	220K	0.50% 1/10W
R558	1-216-683-11	METAL CHIP	22K	0.50% 1/10W
R561	1-216-683-11	METAL CHIP	22K	0.50% 1/10W
R562	1-249-401-11	CARBON	47	5% 1/4W F
R563	1-216-662-11	METAL CHIP	3K	0.50% 1/10W
R564	1-216-697-91	METAL CHIP	82K	0.50% 1/10W
R565	1-216-671-11	METAL CHIP	6.8K	0.50% 1/10W
R566	1-260-311-11	CARBON	39	5% 1/2W
R567	1-216-627-11	METAL CHIP	100	0.50% 1/10W
R568	1-216-655-11	METAL CHIP	1.5K	0.50% 1/10W
R571	1-216-381-11	METAL OXIDE	0.22	5% 3W F
R572	1-216-097-91	RES,CHIP	100K	5% 1/10W
R573	1-216-097-91	RES,CHIP	100K	5% 1/10W
R574	1-216-097-91	RES,CHIP	100K	5% 1/10W
R575	1-216-097-91	RES,CHIP	100K	5% 1/10W
R576	1-216-097-91	RES,CHIP	100K	5% 1/10W
R577	1-216-057-00	RES,CHIP	2.2K	5% 1/10W
R578	1-216-025-91	RES,CHIP	100	5% 1/10W
R579	1-216-672-11	METAL CHIP	7.5K	0.50% 1/10W
R580	1-216-073-00	RES,CHIP	10K	5% 1/10W
R581	1-216-073-00	RES,CHIP	10K	5% 1/10W
R582	1-216-073-00	RES,CHIP	10K	5% 1/10W
R583	1-216-677-11	METAL CHIP	12K	0.50% 1/10W
R584	1-216-081-00	RES,CHIP	22K	5% 1/10W
R585	1-216-081-00	RES,CHIP	22K	5% 1/10W
R586	1-216-049-91	RES,CHIP	1K	5% 1/10W
R587	1-216-049-91	RES,CHIP	1K	5% 1/10W
R588	1-216-097-91	RES,CHIP	100K	5% 1/10W
R589	1-216-097-91	RES,CHIP	100K	5% 1/10W
R590	1-216-675-11	METAL CHIP	10K	0.50% 1/10W
R591	1-216-675-11	METAL CHIP	10K	0.50% 1/10W
R594	1-249-437-11	CARBON	47K	5% 1/4W
R595	1-249-437-11	CARBON	47K	5% 1/4W
R596	1-216-683-11	METAL CHIP	22K	0.50% 1/10W
R663	1-215-481-00	METAL	330K	1% 1/4W
R664	1-215-459-00	METAL	39K	1% 1/4W
R665	1-216-049-91	RES,CHIP	1K	5% 1/10W
R667	1-216-041-00	RES,CHIP	470	5% 1/10W
R669	1-216-673-11	METAL CHIP	8.2K	0.50% 1/10W
R701	1-249-383-11	CARBON	1.5	5% 1/4W F
R702	1-216-057-00	RES,CHIP	2.2K	5% 1/10W
R703	1-216-085-00	RES,CHIP	33K	5% 1/10W
R704	1-249-383-11	CARBON	1.5	5% 1/4W F
R705	1-249-385-11	CARBON	2.2	5% 1/4W
R706	1-216-093-91	RES,CHIP	68K	5% 1/10W
R707	1-249-421-11	CARBON	2.2K	5% 1/4W
R708	1-216-073-00	RES,CHIP	10K	5% 1/10W
R709	1-216-473-11	METAL OXIDE	56	5% 3W F
R710	1-216-073-00	RES,CHIP	10K	5% 1/10W
R715	1-216-077-00	RES,CHIP	15K	5% 1/10W
R719	1-249-383-11	CARBON	1.5	5% 1/4W F
R720	1-260-292-11	CARBON	1	5% 1/2W
R721	1-216-667-11	METAL CHIP	4.7K	0.50% 1/10W
R722	1-216-691-11	METAL CHIP	47K	0.50% 1/10W
R723	1-216-663-11	METAL CHIP	3.3K	0.50% 1/10W
R724	1-214-798-21	METAL	1.8	1% 1/2W
R725	1-214-798-21	METAL	1.8	1% 1/2W
R726	1-216-675-11	METAL CHIP	10K	0.50% 1/10W
R727	1-260-292-11	CARBON	1	5% 1/2W
R728	1-249-381-11	CARBON	1	5% 1/4W F
R729	1-215-865-11	METAL OXIDE	220	5% 1W F
R730	1-219-746-11	CARBON	1K	5% 1/2W
R731	1-216-073-00	RES,CHIP	10K	5% 1/10W
R732	1-216-073-00	RES,CHIP	10K	5% 1/10W
R733	1-219-746-11	CARBON	1K	5% 1/2W
R734	1-215-881-11	METAL OXIDE	15	5% 2W F
R737	1-249-377-11	CARBON	0.47	5% 1/4W F
R738	1-249-377-11	CARBON	0.47	5% 1/4W F
R739	1-249-413-11	CARBON	470	5% 1/4W F
R741	1-249-430-11	CARBON	12K	5% 1/4W
R742	1-249-419-11	CARBON	1.5K	5% 1/4W
R743	1-216-049-91	RES,CHIP	1K	5% 1/10W
R748	1-216-683-11	METAL CHIP	22K	0.50% 1/10W
R749	1-216-049-91	RES,CHIP	1K	5% 1/10W
R750	1-216-057-00	RES,CHIP	2.2K	5% 1/10W
R751	1-216-065-91	RES,CHIP	4.7K	5% 1/10W
R752	1-216-083-00	RES,CHIP	27K	5% 1/10W
R753	1-219-720-11	METAL	10M	5% 1W
R754	1-220-827-91	REGISTER	560K	5% 1/2W
R755	1-220-827-91	REGISTER	560K	5% 1/2W
R756	1-220-827-91	REGISTER	560K	5% 1/2W
R759	1-218-754-11	METAL CHIP	120K	0.50% 1/10W
R776	1-216-049-91	RES,CHIP	1K	5% 1/10W
R777	1-216-681-11	METAL CHIP	18K	0.50% 1/10W
R778	1-216-667-11	METAL CHIP	4.7K	0.50% 1/10W
R779	1-216-049-91	RES,CHIP	1K	5% 1/10W
R784	1-216-081-00	RES,CHIP	22K	5% 1/10W
R900	1-216-399-00	METAL OXIDE	6.8	5% 3W F
R901	1-216-057-00	RES,CHIP	2.2K	5% 1/10W
R902	1-216-065-91	RES,CHIP	4.7K	5% 1/10W
R903	1-216-073-00	RES,CHIP	10K	5% 1/10W
R904	1-216-057-00	RES,CHIP	2.2K	5% 1/10W
R905	1-216-025-91	RES,CHIP	100	5% 1/10W
R906	1-216-065-91	RES,CHIP	4.7K	5% 1/10W
R907	1-216-025-91	RES,CHIP	100	5% 1/10W
R908	1-216-091-00	RES,CHIP	56K	5% 1/10W
R909	1-216-689-11	RES,CHIP	39K	5% 1/10W
R910	1-216-073-00	RES,CHIP	10K	5% 1/10W
R911	1-216-049-91	RES,CHIP	1K	5% 1/10W
R912	1-218-768-11	METAL CHIP	470K	0.50% 1/10W
R913	1-219-748-11	CARBON	4.7K	5% 1/2W
R914	1-219-510-11	CARBON	470K	5% 1/2W
R915	1-249-437-11	CARBON	47K	5% 1/4W
R916	1-249-429-11	CARBON	10K	5% 1/4W
R917	1-216-073-00	RES,CHIP	10K	5% 1/10W
R918	1-216-097-91	RES,CHIP	100K	5% 1/10W

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R919	1-216-025-91	RES,CHIP	100	5% 1/10W	
R920	1-249-401-11	CARBON	47	5% 1/4W	F
R921	1-216-668-11	METAL CHIP	5.1K	0.50% 1/10W	
R922	1-216-041-00	RES,CHIP	470	5% 1/10W	
R923	1-216-675-11	METAL CHIP	10K	0.50% 1/10W	
R924	1-249-397-11	CARBON	22	5% 1/4W	F
R925	1-216-653-11	METAL CHIP	1.2K	0.50% 1/10W	
R926	1-216-653-11	METAL CHIP	1.2K	0.50% 1/10W	
R927	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R928	1-216-667-11	METAL CHIP	4.7K	0.50% 1/10W	
R929	1-216-033-00	RES,CHIP	220	5% 1/10W	
R930	1-216-033-00	RES,CHIP	220	5% 1/10W	
R933	1-216-683-11	METAL CHIP	22K	0.50% 1/10W	
R934	1-216-667-11	METAL CHIP	4.7K	0.50% 1/10W	
R937	1-219-727-11	METAL	68	5% 10W	
R940	1-249-393-11	CARBON	10	5% 1/4W	F
R941	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R980	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R981	1-216-025-91	RES,CHIP	100	5% 1/10W	
R1001	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R1003	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1004	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1005	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1006	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1007	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1009	1-216-097-91	RES,CHIP	100K	5% 1/10W	
R1011	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R1012	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1013	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1014	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1015	1-216-295-91	SHORT		0	
R1016	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1017	1-216-065-91	RES,CHIP	4.7K	5% 1/10W	
R1020	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1021	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1022	1-216-295-91	SHORT	0		
R1023	1-216-295-91	SHORT	0		
R1024	1-216-295-91	SHORT	0		
R1025	1-249-389-11	CARBON	4.7	5% 1/4W	F
R1027	1-216-065-91	RES,CHIP	4.7K	5% 1/10W	
R1028	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1093	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R1094	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1096	1-216-077-00	RES,CHIP	15K	5% 1/10W	
R1501	1-216-057-00	RES,CHIP	2.2K	5% 1/10W	
R1502	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R1503	1-216-125-00	RES,CHIP	1.5M	5% 1/10W	
R1504	1-216-097-91	RES,CHIP	100K	5% 1/10W	
R1513	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R1514	1-216-049-91	RES,CHIP	1K	5% 1/10W	

<RELAY>

RY501	1-755-137-11	RELAY	

<SPARK GAP>

SG701	1-519-422-11	GAP, SPARK	
SG702	1-519-422-11	GAP, SPARK	
SG901	1-517-499-21	GAP, SPARK	

<TRANSFORMER>

T501	1-429-303-21	TRANSFORMER, FERRITE (HDT)	
T502	1-416-401-11	COIL, CHOKE 5.0mH	
T503	1-431-413-11	TRANSFORMER, FERRITE (HST)	
T504	1-416-257-11	COIL, CHOKE 2.0mH	
T701	1-431-414-11	TRANSFORMER, FERRITE (DFT)	
T901	1-416-402-11	COIL, CHOKE 500µH	
T902 ⚠	X-4035-170-1	TRANSFORMER ASSY, FLYBACK	(NX-4142//J1D4)

<THERMISTOR>

TH501	1-807-796-11	THERMISTOR
TH502	1-807-796-11	THERMISTOR

<CRYSTAL>

X001	1-567-781-61	VIBRATOR, CRYSTAL (4 MHz)

****

* 8-933-332-00H5 BOARD, COMPLETE (included H6)

****

<DIODE>

D810	8-719-059-93	DIODE SPR-505MVWT31

<TRANSISTOR>

Q801	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q802	8-729-119-78	TRANSISTOR 2SC2785-HFE

<RESISTOR>

R802	1-215-409-00	METAL	330	1%	1/4W
R803	1-215-409-00	METAL	330	1%	1/4W
R804	1-215-413-00	METAL	470	1%	1/4W
R805	1-215-413-00	METAL	470	1%	1/4W
R806	1-215-417-00	METAL	680	1%	1/4W
R814	1-249-429-11	CARBON	10K	5%	1/4W
R815	1-249-429-11	CARBON	10K	5%	1/4W
R826	1-249-408-11	CARBON	180	5%	1/4W
R827	1-249-407-11	CARBON	150	5%	1/4W

<SWITCH>

S802	1-692-431-21	SWITCH, TACTILE (CONT +)

H5 H6 J L2

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REF.NO.	PART NO.	DESCRIPTION			REMARK
S803	1-692-431-21	SWITCH, TACTILE (CONT –)			
S804	1-692-431-21	SWITCH, TACTILE (MENU)			
S805	1-762-816-11	SWITCH, TACTIL (BRT +/–)			
**********					
*	8-933-332-00H6	BOARD, COMPLETE (included H5)			
		**********			
		<CAPACITOR>			
C805	1-124-589-11	ELECT	47µF	20%	16V
C811	1-124-589-11	ELECT	47µF	20%	16V
		<CONNECTOR>			
CN801*	1-564-526-11	PLUG, CONNECTOR 11P			
		<DIODE>			
D812	8-719-060-26	DIODE SLR-325YCT31			
D813	8-719-060-26	DIODE SLR-325YCT31			
		<TRANSISTOR>			
Q803	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q804	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		<RESISTOR>			
R801	1-215-433-00	METAL	3.3K	1%	1/4W
R807	1-215-421-00	METAL	1K	1%	1/4W
R808	1-215-421-00	METAL	1K	1%	1/4W
R809	1-215-429-00	METAL	2.2K	1%	1/4W
R810	1-215-433-00	METAL	3.3K	1%	1/4W
R812	1-247-815-91	CARBON	220	5%	1/4W
R813	1-247-815-91	CARBON	220	5%	1/4W
R816	1-247-863-91	CARBON	22K	5%	1/4W
R817	1-247-863-91	CARBON	22K	5%	1/4W
R818	1-215-445-00	METAL	10K	1%	1/4W
R819	1-249-441-11	CARBON	100K	5%	1/4W
R824	1-247-863-91	CARBON	22K	5%	1/4W
R825	1-247-863-91	CARBON	22K	5%	1/4W
		<SWITCH>			
S807	1-692-431-21	SWITCH, TACTILE (INPUT)			
S808	1-692-431-21	SWITCH, TACTILE (ASC)			
S810	1-692-431-21	SWITCH, TACTILE (RESET)			
		<THERMISTOR>			
TH801	1-807-796-11	THERMISTOR			
**********					
*	8-933-335-00J	BOARD, COMPLETE			
		**********			
		<CONNECTOR>			
CN891*	1-691-961-11	PIN, CONNECTOR (PC BOARD) 2P			
		<SWITCH>			
S891 ⚠	1-571-433-31	SWITCH, PUSH (AC POWER)			
**********					
*	8-933-336-00	L2 BOARD COMPLETE			
		**********			
		<CAPACITOR>			
C5002	1-126-964-11	ELECT	10µF	20%	50V
C5003	1-126-933-11	ELECT	100µF	20%	16V
C5004	1-104-664-11	ELECT	47µF	20%	25V
C5005	1-104-664-11	ELECT	47µF	20%	25V
C5008	1-104-664-11	ELECT	47µF	20%	25V
C5009	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5101	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5103	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5104	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5105	1-104-664-11	ELECT	47µF	20%	25V
C5106	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5107	1-130-495-00	FILM	0.1µF	5%	50V
C5108	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5109	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5110	1-104-664-11	ELECT	47µF	20%	25V
C5111	1-130-495-00	FILM	0.1µF	5%	50V
C5201	1-104-664-11	ELECT	47µF	20%	25V
C5202	1-104-664-11	ELECT	47µF	20%	25V
C5203	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5204	1-130-495-00	FILM	0.1µF	5%	50V
C5205	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C5206	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5301	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5303	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5304	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5305	1-104-664-11	ELECT	47µF	20%	25V
C5306	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C5307	1-130-495-00	FILM	0.1µF	5%	50V

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C5308	1-164-004-11	CERAMIC CHIP	0.1µF	10% 25V	
C5309	1-164-004-11	CERAMIC CHIP	0.1µF	10% 25V	
C5310	1-104-664-11	ELECT	47µF	20% 25V	
C5311	1-130-495-00	FILM	0.1µF	5% 50V	
C5401	1-164-004-11	CERAMIC CHIP	0.1µF	10% 25V	
C5403	1-163-021-91	CERAMIC CHIP	0.01µF	10% 50V	
C5404	1-164-004-11	CERAMIC CHIP	0.1µF	10% 25V	
C5405	1-104-664-11	ELECT	47µF	20% 25V	
C5406	1-164-004-11	CERAMIC CHIP	0.1µF	10% 25V	
C5407	1-130-495-00	FILM	0.1µF	5% 50V	
C5408	1-163-003-11	CERAMIC CHIP	330pF	10% 50V	
C5409	1-164-004-11	CERAMIC CHIP	0.1µF	10% 25V	
C5410	1-104-664-11	ELECT	47µF	20% 25V	
C5412	1-164-004-11	CERAMIC CHIP	0.1µF	10% 25V	
C5501	1-126-934-11	ELECT	220µF	20% 10V	
		<CONNECTOR>			
CN5001*	1-564-512-11	PLUG, CONNECTOR 9P			
CN5002*	1-564-509-11	PLUG, CONNECTOR 6P			
CN5003*	1-564-513-11	PLUG, CONNECTOR 10P			
CN5004*	1-564-507-11	PLUG, CONNECTOR 4P			
		<DIODE>			
D5002	8-719-801-78	DIODE 1SS184			
D5101	8-719-800-76	DIODE 1SS226			
D5103	8-719-800-76	DIODE 1SS226			
D5201	8-719-800-76	DIODE 1SS226			
D5301	8-719-800-76	DIODE 1SS226			
D5303	8-719-800-76	DIODE 1SS226			
D5401	8-719-800-76	DIODE 1SS226			
D5403	8-719-800-76	DIODE 1SS226			
D5501	8-719-976-96	ZENER DIODE DTZ4.7C			
		<SENSOR>			
GS50018	8-610-154-91	SENSOR, MAGNETIC MIU-212			
		<IC>			
IC5101	8-759-822-38	IC LA6510			
IC5201	8-759-803-42	IC LA6500-FA			
IC5301	8-759-822-38	IC LA6510			
IC5401	8-759-822-38	IC LA6510			
		<RESISTOR>			
R5001	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5003	1-216-295-91	SHORT	0		
R5005	1-216-689-11	RES,CHIP	39K	5% 1/10W	
R5006	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5007	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R5010	1-216-295-91	SHORT	0		
R5011	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5015	1-216-049-91	RES,CHIP	1K	5% 1/10W	
R5101	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5102	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5108	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5109	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5110	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5111	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5112	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5113	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5114	1-249-441-11	CARBON	100K	5% 1/4W F	
R5115	1-215-882-00	METAL OXIDE	22	5% 2W F	
R5116	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5117	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5119	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5120	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5121	1-249-441-11	CARBON	100K	5% 1/4W F	
R5122	1-215-882-00	METAL OXIDE	22	5% 2W F	
R5201	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5202	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5203	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5204	1-249-441-11	CARBON	100K	5% 1/4W F	
R5205	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5206	1-215-859-00	METAL OXIDE	22	5% 1W F	
R5207	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5208	1-216-670-11	METAL CHIP	6.2K	0.50% 1/10W	
R5301	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5302	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5308	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5309	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5310	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5311	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5312	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5313	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5314	1-249-441-11	CARBON	100K	5% 1/4W F	
R5315	1-215-882-00	METAL OXIDE	22	5% 2W F	
R5316	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5317	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5319	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R5320	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5321	1-249-441-11	CARBON	100K	5% 1/4W F	
R5322	1-215-882-00	METAL OXIDE	22	5% 2W F	
R5401	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5402	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5406	1-216-689-11	RES,CHIP	39K	5% 1/10W	
R5407	1-216-079-00	RES,CHIP	18K	5% 1/10W	
R5408	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5409	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5410	1-216-089-91	RES,CHIP	47K	5% 1/10W	
R5411	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5412	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5413	1-216-097-91	RES,CHIP	100K	5% 1/10W	
R5414	1-249-441-11	CARBON	100K	5% 1/4W F	
R5415	1-215-886-11	METAL OXIDE	100	5% 2W F	
R5416	1-216-077-00	RES,CHIP	15K	5% 1/10W	
R5417	1-216-308-00	RES,CHIP	4.7	5% 1/10W	
R5419	1-216-089-91	RES,CHIP	47K	5% 1/10W	
R5420	1-249-383-11	CARBON	1.5	5% 1/4W F	
R5421	1-249-441-11	CARBON	100K	5% 1/4W F	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R5422	1-215-885-00	METAL OXIDE	68	5% 2W	F
R5423	1-216-105-91	RES, CHIP	220K	5% 1/10W	
R5501	1-216-057-91	RES, CHIP	2.2K	5% 1/10W	
R5502	1-216-681-11	METAL CHIP	18K	0.50% 1/10W	
R5503	1-216-681-11	METAL CHIP	18K	0.50% 1/10W	
R5504	1-216-093-00	RES, CHIP	68K	5% 1/10W	
R5505	1-216-067-00	RES, CHIP	5.6K	5% 1/10W	
R5506	1-216-670-11	METAL CHIP	6.2K	0.50% 1/10W	

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